ABSTRACT

Title of Thesis:	CHILD SECURITY, CAREGIVING BEHAVIOR AND REPRESENTATIONS: LINKS TO MATERNAL SECURE BASE SCRIPTS
	Martha Davis Straske, Master of Science, 2021
Thesis directed by:	Professor of Psychology, Jude Cassidy, Department of Psychology

An individual's representation of attachment can be measured using the Attachment Script Assessment. These scripts are (1) learned from experience, (2) stable across time and context, and (3) guides for behavior (Waters & Roisman, 2019). Following the principle of intergenerational transmission of attachment, literature has established the connection between mothers' secure base script knowledge and children's attachment security. However, little work has studied how parents' secure base scripts may predict outcomes distal from security. The present study investigated the relation between mothers' secure base script knowledge and children's attachment security, as well as children's caregiving scripts and behaviors, while also considering the impact of mothers' supportive and unsupportive responses to child distress. Although none of the hypotheses was supported, the current study found a link between mother's secure base script knowledge and her parenting behavior. We discuss potential explanations for the unexpected findings and outline directions for future research examining the role of mothers' secure base script knowledge on child outcomes.

CHILD SECURITY, CAREGIVING BEHAVIOR AND REPRESENTATIONS: LINKS TO MATERNAL SECURE BASE SCRIPTS

by

Martha Davis Straske

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Advisory Committee:
Dr. Jude Cassidy, Chair
Dr. Melanie Killen
Dr. Elizabeth Redcay

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Chapter 1: Introduction

A central tenet of attachment theory is that experiences and feelings inform our internal working models, or representations, of attachment relationships. In turn, these representations guide our behavior, allowing us to create "scripts" for how we ought to act and how we expect others to act in attachment scenarios. The Attachment Script Assessment (ASA) is a storytelling task where adults create a story from a list of word prompts; this story is ultimately coded to reflect that individual's *secure base script knowledge* (Waters & Waters, 2006). Research using this measure has largely looked at connections between mothers' secure base script knowledge and their behavior, the Adult Attachment Interview (AAI; George et al., 1984, 1985, 1996), or children's attachment security.

However, given the breadth and depth of attachment theory research, it is likely that additional links exist between mothers' secure base script knowledge and child outcomes. In particular, prosocial behavior has been widely studied as an outcome of child security. Alan Sroufe and June Fleeson propose that from a secure attachment, children learn both sides of a responsive relationship: how to be cared for and how to care for others (1986). It may be that caring for others comes as a result of how a child's mother cares for them; both the behaviors she displays and the representations she holds for how an attachment relationship operates instruct the child on how they can care for a peer or sibling.

In this proposal, I will first provide an overview of secure base scripts and how they are measured using the ASA. Second, I will outline the well-understood

link between mothers' secure base script knowledge and children's attachment, as well as introduce a probable link between secure base script knowledge and children's caregiving scripts and behaviors. Third, I will explain how mothers' behavior likely serves as a mediator of the relations between mothers' secure base script knowledge and each of the three measured child outcomes (attachment, caregiving scripts, and caregiving behaviors). Finally, I propose a study to test this model.

Attachment Theory: Secure Base Scripts

Attachment theory states that our representations of attachment, or internal working models, guide our behavior and are based on our real-life experiences and feelings (Bowlby 1973, 1969/1982). These experiences inform us of how we should act, and how others may act, in any given attachment-relevant situation. These internal working models are made up of scripts, the "building blocks" of attachment representations (Bretherton, 1987, 1990; Waters & Rodrigues-Doolabh, 2001; Waters & Waters, 2006). Attachment scripts have three central qualities: Scripts are (1) learned from experience, (2) stable across time and context, and (3) guides for behavior (Waters & Roisman, 2019).

Specifically, the aforementioned Attachment Script Assessment for adults, or ASA, captures an individual's attachment scripts. The measure operates as a storytelling exercise. Participants are given a list of words and asked to create a detailed story based on the words shown. Participants are shown a total of four word prompt outlines one at a time; two of the stories focus on adult-child relationships and two of the stories center around adult-adult romantic relationships. These four stories

are then transcribed and coded for *secure base script knowledge*. Rather than categorizing individuals as secure or insecure, the ASA assigns participants a mean score of secure base script knowledge. Someone with high secure base script knowledge tells a story with rich interplay between the two characters, pays close attention to the psychological state of characters, solves any problem or distress, and returns to normalcy. Someone with low secure base script knowledge tells more event-related stories, over-relies on the word prompt outline, and gives little to no commentary on the give-and-take between characters or their psychological awareness. The scripts that individuals create reflect their knowledge and understanding of how an attachment figure responds and attends to their partner or child, and how effective that care is.

Since its development, follow-up work has confirmed both the longitudinal stability of the ASA (Vaughn, Verissimo, Coppola, et al., 2006) and the latent structure of the secure base script knowledge construct (Waters, Fraley, Groh, et al., 2015). Additionally, we know the ASA to be a sufficient measure of adults' representations of attachment given its consistency with the other measures of adult attachment styles (Experiences in Close Relationships (ECR); Borelli et al., 2017; McLean et al., 2014; Mikulincer et al., 2009) and state of mind toward attachment (AAI; Waters, Brockmeyer, & Crowell, 2013). The measure has been used in a wide variety of samples, in different countries (Coppola et al., 2006; Monteiro et al., 2008) and with different family styles (e.g., families with adopted children; Schoenmaker et al., 2015; Verissimo & Salvaterra, 2006). Overall, the ASA is viewed as an effective

measure of adults' representations of attachment, namely adults' knowledge of secure base scripts.

Secure Base Scripts and Child Factors

Links to Child Attachment Security

Virtually all of the research connecting maternal secure base script knowledge to child measures focuses on the outcome of child security, such that child security is positively associated with mothers' secure base script knowledge. This is the principle of intergenerational transmission of attachment: that a caregiver's attachment style predicts the child's attachment security. In this case, ideas and representations of attachment from the mother are passed down to the child's ideas and representations regarding attachment. This has been found across multiple measurement types of child security, including the Strange Situation in one unpublished poster (Tini et al., 2003; a student of H. Waters) and many using the Attachment Q Sort (AQS; see Waters & Deane, 1985; Bost et al., 2006; Monteiro et al., 2008; Vaughn, Coppola, Verissimo, et al., 2007; Verissimo & Salvaterra, 2006; Wong et al., 2011).

Additionally, some work has analyzed the predictive power of parental secure base script knowledge for the Attachment Story Completion Task (ASCT; Bretherton, Ridgeway, & Cassidy, 1990). The ASCT is a measurement of child attachment security where preschoolers complete story stems (presented to them by a researcher) with dolls. The central indicator of security within this task is a child's completion of a story with clear, coherent details where the problem is resolved by a caregiver. Wong and colleagues (2011) sought to understand what impacts children's

representations of attachment, considering both mothers' representations of attachment (secure base script knowledge) and children's own secure base behaviors. With a cross-cultural sample, the researchers found significant associations among three attachment constructs (ASCT, AQS, mothers' ASA). Additionally, mothers' secure base script knowledge and child secure base behaviors were uniquely and significantly associated with children's representations of attachment (ASCT). However, the indirect effect of mothers' secure base script knowledge on children's representations of attachment through child behavior was *not* significant. The authors later suggest that this indirect model may still be important, though with mothers' behaviors replacing children's behaviors as the mediator.

Links to Child Caregiving

Little is known about mothers' secure base script knowledge predicting factors other than security. Sparks and colleagues (2018) studied how parents' secure base script knowledge mediated the relation between cumulative risk (operationalized from five dichotomized sociodemographic risk factors, including neighborhood danger, caregiver relationship status, mother's age at the birth of her first child, parental education level, and overcrowding in the child's home environment) and children's social competence. They found support for the hypothesized model in a sample of low-income families, suggesting a relation between parents' secure base scripts and child socioemotional outcomes beyond attachment security.

A second study by the same group of researchers (McLear et al., 2015) considered a slightly different research question with the same impoverished, urban sample. The authors found significant, predictive power of child self-regulation and

parents' representations of attachment for child academic achievement. Finally, a third study attempted to predict children's ADHD symptoms from mothers' secure base script knowledge, but found no significant relationship (Guttmann-Steinmetz et al., 2011). In summary, the three studies described demonstrate preliminary evidence for links between parents' secure base script knowledge and child socioemotional outcomes, though additional work is needed.

An outcome that has yet to be studied in relation to mothers' secure base script knowledge is child prosociality. The overarching finding in the attachment field is that children who feel secure are more comfortable with treating others with kindness because they have received that same treatment at home (Panfile & Laible, 2012; Shaver et al., 2016). Although much of the work on prosociality conflates multiple prosocial behaviors into one construct, there is support for studying these behaviors individually, as attachment security may differentially impact behaviors like helping, sharing, and comforting (Beier et al., 2018; Dunfield, 2014).

It seems likely that a relation between mothers' representations of attachment and children's prosocial behaviors exists, given the extensive literature on child security predicting children's prosocial behaviors (Shaver et al., 2016; Stern & Cassidy, 2017). In particular, caregiving is a prosocial behavior in response to an individual's emotional distress (Dunfield, 2014). Caregiving as a construct can be studied using two measures: behaviors and scripts. Previous literature demonstrated how child attachment security positively predicted children's caregiving behaviors using a similar paradigm to the one proposed for the current study (Beier et al., 2018). It may be that children learn caregiving scripts and behaviors from their secure

attachment to parents in the same way they learn other prosocial behaviors. This would be a novel pattern to study, predicting children's caregiving from mothers' secure base script knowledge, which might allow us to draw conclusions about how parents' attachment representations influence more than just their child's attachment security.

Mediating Role of Mothers' Behavior

It may be that there is a link between mothers' representations of attachment and children's own attachment, as well as children's caregiving scripts and behaviors. However, it is reasonable to expect that these paths are mediated by maternal behavior. A mother's secure base script knowledge is a reflection of how she represents attachment. A mother builds an internal working model of how attachment and caring for another person works, which is demonstrated as she tells a story where one person's needs or distress is met by their secure base. Then, the mother refers to this internal working model of attachment to inform her caregiving behavior.

Previous literature links mothers' representations of attachment to mothers' behavior toward their own children. Specifically, four studies have analyzed this pattern, where mothers' secure base script knowledge predicted their parenting behaviors or maternal sensitivity toward their young children. Coppola, Vaughn, Cassibba, and Constantini (2006) were some of the first to study this relation between maternal behavior and the ASA. With a sample of Italian mother-child dyads, the researchers found a signification association between secure base script knowledge and researcher-observed maternal sensitivity.

Three other studies have looked at similar measurements of parental behavior predicted by mothers' secure base script knowledge. In a sample of higher-risk families, Huth-Bocks and colleagues (2014) found a significant positive relation between mothers' secure base script knowledge and positive parenting (researcher observed; coded as a composite of behavioral sensitivity, engagement, flexibility, warmth, affective sensitivity, and positive affect). Similarly, in a sample of fathers, secure base script knowledge was found to be inversely related with intrusion and emotional disengagement (Trumbell et al., 2018). In the same study of fathers, secure base script knowledge buffered the impact of marital disengagement on negative parenting (Trumbell et al., 2018). Finally, Groh and Roisman's (2009) work utilizing physiological measures found that lower levels of secure base script knowledge in a sample of adults correlated with greater electrodermal reactivity and lower feelings of love while listening to an infant cry. These four studies serve as groundwork for the idea that mothers' representations of attachment inform her behavior, specifically behaviors of maternal sensitivity and positive parenting. Overall, these works suggest that secure base script knowledge impacts parental behavior.

It is a limitation that all but one of the aforementioned works look at sensitivity or parenting behaviors to child *non-distress*, typically in semi-structured play settings or in age-appropriate challenging tasks paradigms. Groh and Roisman's (2009) work technically looks at adult response to child distress (because the stimuli was a recording of a baby crying), however this stimuli was with a generic sound and not related to experiences with participants' own children. As a result, the only conclusions we can draw about mothers' representations of attachment predicting her

behavior are limited to situations of child non-distress. Given a central feature of the ASA is that the mother tells a story where a child or romantic partner experiences a stressful moment (e.g., the teddy bear is lost; Sue gets into a car accident), important future work might include looking at situations of child distress. High secure base script knowledge is found in stories where these minor issues of distress are resolved, and the adult-child or adult-adult pair return to life as normal. Thus, connections between mothers' attachment scripts and her actual responses to child distress seem likely, though currently unstudied.

Moreover following previous literature, we can then expect that mothers' behaviors (specifically, her response to child distress) will predict the child's attachment security. This connection has been well-demonstrated in attachment theory research, for both sensitivity to distress and sensitivity to non-distress (Ainsworth et al., 2015; Leerkes et al., 2009; Leerkes et al., 2004; McElwain & Booth-LaForce, 2006). An additional important distinction to make is mothers' supportive versus unsupportive sensitivity to child distress (Gudmundson & Leerkes, 2012). Supportive responses (e.g., expressive encouragement or emotion-focused) may have a more positive impact on child attachment security than unsupportive ones (e.g., punitive, minimization).

Additionally, mothers' response to child distress ought to predict child caregiving, measured through caregiving scripts (factor B) and behaviors (factor C). Caregiving is a logical outcome of maternal behavior, given the mass amount of research demonstrating empathy (another form of prosocial behavior) predicted by

parental response to distress (Bryant, 1987; Davidov & Grusec, 2006; Weinfield et al., 2008).

It is proposed that children's caregiving relates to mothers' response to distress in two ways. (1) A child models what their mother has shown them in times of need. The mother's actual behaviors serve as an example of how to show care for another (behavioral component). (2) The child has developed an internal working model or script for how their mother helps them in time of need. They have developed this cognitive component of caregiving: an internal representation of what it means to be a caregiver and to feel security. These two components map onto the two factors of interest: caregiving behavior and caregiving scripts. Thus, the two constructs should be studied separately from one another.

The Present Study

The present study first investigated the relation between maternal secure base script knowledge and child factors, including attachment security, caregiving scripts, and caregiving behavior (see Figure 1). Secondly, the study investigated an exploratory mediational model, such that mothers' secure base script knowledge would predict three aspects of child functioning: child attachment, caregiving scripts and behaviors, mediated by the mothers' responses to child distress (see Figure 2).

In order to test these models, the proposed research utilized archival data, considering a new model of constructs previously measured. The sample is comprised of dyads of four-year-old children and their mothers. The child factors, attachment security, caregiving scripts, and caregiving behavior, were all behaviorally observed by research assistants. The key predictor, mothers' secure base script knowledge, was

derived from the Attachment Script Assessment measure, administered by a research assistant in a data collection session with the mother. Finally, the exploratory mediator, mothers' response to child distress (measured through the Coping with Toddler's Negative Emotions Scale; Spinrad et al., 2004), came from a parent-report questionnaire.

The hypotheses for the proposed research are outlined by paths of the proposed model.

***Hypothesis 1 (a priori)*:** These hypotheses describe Path C (also depicted in Figure 1), that mothers' secure base script knowledge predicts both security and prosocial behavior in her child.

1a. Mothers' secure base script knowledge will predict children's attachment security.

1b. Mothers' secure base script knowledge will predict children's caregiving scripts.

1c. Mothers' secure base script knowledge will predict children's caregiving behaviors.

Hypothesis 2 (exploratory): These hypotheses describe a potential mediational model, where supportive and unsupportive responses to child distress were tested separately as mediators between mothers' secure base script knowledge and the three child factors. In each of the following hypotheses, supportive responses to child distress were expected to have a positive impact on the relation between mothers' secure base script knowledge on child factors, whereas unsupportive

responses to child distress were expected to have a negative impact. All three of these hypotheses were analyzed in an exploratory fashion, given the small sample size (see Data Analysis Plan).

2a. Mothers' response to child distress will mediate the link between secure base script knowledge and her child's attachment security.

2b. Mothers' response to child distress will mediate the link between secure base script knowledge and children's caregiving scripts.

2c. Mothers' response to child distress will mediate the link between secure base script knowledge and children's caregiving behaviors.

Moreover, this study contributes to the literature by (a) attempting to replicate existing evidence predicting child attachment scripts from mother attachment scripts, (b) studying new distal aspects of child functioning from maternal secure base script knowledge, (c) connecting maternal secure base script knowledge to mothers' response to child distress, and (d) connecting these constructs in an exploratory meditational model.

Chapter 2: Method

Participants

This project used existing data from a study conducted in 2014. Participants were recruited from the greater Washington, D.C. metropolitan area through IRB-approved flyers (see Appendix A) and listserv announcements. Inclusion criteria were as follows: (1) child is 4 years old and (2) typically developing, (3) mother is at least 18 years old, and (4) mother and child speak English sufficiently well to complete questionnaires.

Participants were 100 mother-child dyads. Four dyads were deemed ineligible (two children not typically developing, one child outside of age range, one mother not proficient in English). Of these 96 dyads, seven did not return for the second visit when this study's procedures were conducted. Finally, six dyads did not fully complete the second lab visit assessments, resulting in a final sample size of 83 (54.7% girls, M_{age} = 53.46 months, *SD* = 3.38 months, range: 48-60 months). The sample was racially diverse, with 20.9% identifying as Black/African American, 58.1% as Caucasian/White, 10.5% as Hispanic, 5.8% as Asian, 2.3% as Mixed, and 2.3% as Other. The majority of children (83.7%) were from two-parent households, and the median annual reported income was $80,000 - $99,000.

Procedure

Data collection took place across two visits to the lab for the larger study. At the conclusion of the two visits, mothers received $30 in compensation and children received a small prize.

At the first visit, the mother completed a series of tasks designed to elicit maternal perceptions of children's emotions (not used in this project). Also during this first visit, the child had a brief play period with the experimenter, and then completed the clipboard task.

At the second visit, the mother completed the survey packet, including the CTNES questionnaire, questionnaires about the child's behavior (the CBCL, emotion regulation, empathy), the social touch questionnaire, and demographics (child gender, age, and race; mother race, income, education; number of siblings and parents in the home, frequency of spanking). From this survey, only the demographics and the CTNES will be used in this project. This survey packet took approximately 30 minutes to complete. Then, the mother completed the ASA interview with the experimenter.

For the child, the second visit included a warm-up, play puzzle task with the experimenter to familiarize the child with the lab setting. Then, the child completed one of the two story stem tasks (the attachment stories or caregiving scripts tasks). The order of these tasks was counterbalanced. After the first task, the child completed a verbal vocabulary task and had a brief play session with the experimenter, so to distract the child in between story stem tasks. Following this 10-minute distraction period, the child completed the other story stem task.

All of these above tasks are described in detail below. For this proposal, I will provide a brief overview of these order effects; conclusions regarding order effects are addressed in the Discussion.

For the mother data, the measures used in this project occur in the same visit, but order effects are not expected, given that the formats differ and the CTNES was the first section of a 30-minute survey, and the ASA interview followed after.

For the child data, order effects are not anticipated between the ASCT and CGST given that they were counterbalanced. Additionally, we feel that the vocabulary task and playtime served as sufficient neutralizers because together they took at least 10 minutes and were designed to be distracting.

For the third child outcome variable, the clipboard task does occur at an earlier visit than the predictor variable (ASA). However, given that these visits occurred within two weeks of each other, I do not believe that this earlier rating would have drastically changed in between visits, and thus the earlier timing will interfere with the results.

Measures

Demographics

During the first visit, mothers completed a brief demographics questionnaire including mother race, annual household income, and education level; and child gender, age, and race.

Coping with Toddlers' Negative Emotions Scale (CTNES; Spinrad et al., 2004)

Mothers completed the 12-item questionnaire of caregivers' behavioral responses to child distress (see Appendix B). Each item is a hypothetical scenario in which the child becomes upset, angry, or distressed (e.g., "If my child loses a favorite toy and reacts with tears, I would"). Caregivers rate their likelihood of engaging in each of seven possible responses to their toddler's negative emotions on a 7-point

scale, from 1 (very unlikely) to 7 (very likely). The seven possible responses are grouped into categories of: (a) distress reactions (e.g., "Feel upset myself"), (b) punitive reactions (e.g., "Tell my child it is his/her fault for not being careful with the toy"), (c) minimizing reactions (e.g., "Tell my child that it is not that important"), (d) expressive encouragement (e.g., "Tell my child it is okay to feel sad about the loss"), (e) emotion-focused reactions (e.g., "Distract my child with another toy to make him/her feel better"), (f) problem-focused reactions (e.g., "Help my child think of other places to look for the toy"), and (g) granting the child's wish (e.g., "Go and buy my child a new item).

Following Gudmundson and Leerke's (2012) adaptation of the original scale, the CTNES (Spinrad et al., 2004) questionnaire is divided into two separate subscales: supportive and unsupportive responses to child distress. The domains of (a) distress, (b) punitive, and (c) minimizing reactions are averaged to create a mean score of *unsupportive responses*. The domains of (d) expressive encouragement, (e) emotion-focused reactions, and (f) problem-focused reactions are averaged to create a mean score of *supportive responses*. Both the supportive and unsupportive subscales demonstrated strong reliability in previous research (Gudmundson & Leerkes, 2012; Spinrad et al., 2007) and in the present study (supportive $\alpha = 0.85$, unsupportive $\alpha = 0.85$).

Adult Script Assessment (ASA; Waters & Rodrigues-Doolabh, 2001)

Mothers are instructed to create a story, using a list of 12 to 14 words as a guide. They are given two minutes to review the words before beginning to tell a story of their own. The procedure includes two stories about parent-child

relationships (“Baby’s Morning” and “Doctor’s Office”) and two stories about adult relationships (“Camping Trip” and “Sue’s Accident”).

Stories are coded on a 7-point scale indicating the extent to which the story demonstrates secure base script knowledge, from 7 (*extensive secure base script knowledge with substantial elaboration*) to 1 (*absence of a secure base script*) (see Appendix C). Higher scores are given to participants who create coherent stories about an incident of distress being resolved by actions of the adult or partner. The four scores from each participant are averaged to create a mean score of secure base script knowledge. The four researchers who coded stories attended an intensive weekend training by Harriet Waters on the coding procedure. Each story was coded by two researchers (unaware of all participant and family information); the principal researcher coded all stories, whereas the three collaborators each coded one-third of the total stories. Inter-rater reliability was strong, with two-way mixed intraclass correlation coefficients ranging from 0.95 to 0.96 for all three pairs of coders. Intraclass correlations were chosen for this reliability analyses since there were pairs of coders, with consistency within each pair as the main goal. ICCs are most effective when used to represent the reliability of two coders at a time, considering individual coder’s decisions and reliability based on how close those scores are (rather than executive decisions) (Koo & Li, 2016). Acceptable ICC scores are 0.60 or higher (Koo & Li, 2016).

Attachment Story Completion Task (ASCT; Bretherton et al., 1990)

In this attachment security task, children complete six stories (a warm-up and five additional stories [“Spilled Juice,” “Hurt Knee,” “Monster in the Bedroom,”

"Departure," and "Reunion", see Appendix D]) based on a protagonist doll (matched for child gender) and the doll's family. In these stories, the experimenter begins to tell a story and then tells/instructs the child, "Show me what happens next." Stories are designed to elicit children's understanding of attachment-related issues, so children were prompted with questions if they did not address the major attachment-related event of the story. Stories were considered complete once children verbally indicated they were finished, had handed their dolls back to the experimenter, or sat back and looked at the experimenter expectantly.

Stories were videotaped and independently coded (see Appendix E) by three trained coders and two expert coders, based on a manual developed within the lab as an adaptation of the original Bretherton et al. (1990) method, taking into account considerations from Cassidy (1988) and Main et al. (1985). Children's responses were coded for content and process on a 5-point scale, from 1 (*highly insecure*) to 5 (*highly secure*). Then, children were assigned a classification of organized (combining secure and avoidant classifications) or disorganized. Eighty cases (91%) were double-coded and coder discrepancies were resolved by consensus in weekly coding meetings held to prevent coder drift.

For inter-rater reliability, Krippendorff's alpha was used since it is a conservative, yet computationally complex method to assess reliability of behavioral observation coding from multiple raters (Krippendorff, 2011). Estimates were generated using KALPHA (Krippendoff's Alpha), an SPSS macro (Hayes & Krippendorff, 2007). 5000 bootstrap samples were created from the sample of double-coded cases by random sampling with replacement. Estimates were calculated

from the bootstrapped samples. Estimates of 0.70 or above indicate sufficient reliability (Lombard et al., 2002). Reliability estimates were calculated for children's attachment security (5-point scale) in each story; reliabilities for each story were at or above 0.85 (see Table 1).

Caregiving Story Completion Task (CGST; Martin et al., 2016)

The child caregiving cognitions task asks children to complete four story stems (two fear-valenced ["Big Dog" and "Sleepover"], one sadness-valenced ["Lost Toy"], one about physical pain ["Swimming Pool"]) based on a protagonist doll (matched for child gender; see Appendix F). A doll identified as a friend of the protagonist doll is distressed about something; the experimenter then tells/instructs the child, "Show and tell me what happens next." Stories were considered complete once children verbally indicated they were finished, had handed their dolls back to the experimenter, or sat back and looked at the experimenter expectantly.

Stories were videotaped and independently coded (see Appendix G) by three trained coders and one expert coder. Children's responses were coded for the presence of care provision and communication of whether the care was effective in solving the problem, based on a 4-point scale, from 1 (*no caregiving script*) to 4 (*clear caregiving script knowledge*). Sixty-three cases (72%) were double-coded and coder discrepancies were resolved by consensus in weekly coding meetings, held to prevent coder drift.

Estimates of inter-rater reliability were generated using KALPHA (Krippendoff's Alpha), an SPSS macro (Hayes & Krippendorff, 2007). 5000 bootstrap samples were created from the sample of double-coded cases by random

sampling with replacement. Estimates were calculated from the bootstrapped samples. Estimates of 0.70 or above indicate sufficient reliability (Lombard et al., 2002). Reliability estimates were calculated for children's caregiving scripts (4-point scale) in each story; reliabilities for each story were at or above 0.7 (see Table 2).

Child Caregiving Behavior: Clipboard Task

Children also completed the two-minute Clipboard Task, a measurement of prosocial comforting behavior (an adaptation of a previously validated task; Hastings et al., 2005). While children were engaging in free play, the experimenter picked up papers to place them on a clipboard. While doing so, the experimenter simulated being pinched by the clipboard by loudly snapping the clipboard and exclaiming, "Ouch! I pinched my finger on my clipboard!" The responses following this exclamation are divided into four segments, each 30 seconds in length. The first segment involved the experimenter showing distress by moaning and sighing without looking at the child. During the second segment, the experimenter verbally expressed sadness by stating the problem three times, without looking at the child. In the third segment, the experimenter repeated the problem while looking at the child. In the fourth segment, the experimenter made a direct request for help from the child. At the end of the two minutes, the experimenter demonstrated feeling better, and play resumed.

This behavioral task was videotaped and coded by five trained, reliable coders in 10-second segments (see Appendix H for a detailed coding manual). Each segment was coded for the presence of comforting behaviors, negativity, distress, concerned attention, and proximity. These behaviors were used to create a global score ranging

from 1 (*low comforting*) to 5 (*high comforting*). Fifty-one cases (58%) were double coded and coder discrepancies resolved by consensus in weekly coding meetings held to prevent coder drift.

Estimates of inter-rater reliability were generated using KALPHA (Krippendoff's Alpha), an SPSS macro (Hayes & Krippendorff, 2007). 5000 bootstrap samples were created from the sample of double-coded cases by random sampling with replacement. Estimates were calculated from the bootstrapped samples. Estimates of 0.70 or above indicate sufficient reliability (Lombard et al., 2002). Reliability estimates were calculated for children's global comforting score (5-point scale); reliabilities were 0.79.

Chapter 3: Data Analysis Plan

The following data analysis plan has been registered to Open Science Framework on November 2, 2020 (see Appendix I).

Sample Size Selection

Direct Effects

First, I will discuss the direct effects: one path A (mothers' secure base scripts to mothers' response to child distress), three path Bs (mothers' response to child distress to (1) child attachment security, (2) child caregiving behavior, and (3) child caregiving scripts), and three path Cs (mothers' secure base scripts to (1) child attachment security, (2) child caregiving behavior, and (3) child caregiving scripts). Given that the sample size is already defined, a power analysis was conducted to determine the level of power that could be detected for these direct effects. This analysis was conducted using G*Power 3.1, under the *exact* test family for *linear multiple regression (random model)* statistical tests, with one predictor. With our sample size of 83 and a medium effect size of .15 (H1 $f^2 = .15$), I will have .96 power to detect a significant effect. With a small effect size of .05 (H1 $f^2 = .05$), I will have .65 power to detect a significant effect. In other words, with a known sample of 83 and an ideal power of 0.80, we could find an effect size of 0.075.

This low power for a small effect size is worrisome. However, given previous research on similar topics, a medium effect size is expected for the current study. To justify this, I will outline a few previous research findings' effect sizes for the following relations: (1) mothers' attachment security and their response to child

distress (path A), (2) mothers' response to child distress and child attachment (one path B), and (3) mothers' attachment security to children's attachment security (one path C). Given that caregiving behavior and scripts are novel constructs, they will not be discussed in terms of historical effect sizes.

1. Coppola's (2006) early work linked mothers' secure base scripts with maternal sensitivity at a large, strong effect size of $r = 0.66$. Mothers' response to child distress is considered a form of maternal sensitivity, as it describes how the mother responds in specifically negative situations.
2. The relation between mothers' caregiving behavior and children's attachment security is the groundwork of attachment theory (Ainsworth et al., 2015). Specifically, mothers' response to child distress has been consistently found to predict children's attachment security, in both secure ($r = 0.81$) and insecure ($r = 0.80$) children (McElwain et al., 2006). Both effect sizes are large.
3. Wong et al. (2011) found a moderate effect size ($r = 0.34$) for the association between mothers' secure base scripts and children's attachment security, measured via ASCT.

Given this trend of moderate to large effect sizes, expecting a medium effect size for the present study is justified.

Indirect Effects

According to Fritz and MacKinnon's (2007) work on required sample sizes to detect a mediated effect, the proposed study should have a sample size of 148 to detect a small effect for a bias-corrected bootstrap analysis. This is a clear limitation

of the proposed study: our power for detecting any indirect effects is low. While it is unlikely the proposed research has the power to detect these indirect paths, they are important to test given the theoretical support for the relations between these constructs. Thus, these indirect effects will be tested as exploratory analyses.

Missing Data Strategies

Child Data

Because I will be using PROCESS for my analyses, I will be using complete cases of child data. I will address which participants were missing which variables, and determine if any correlations existed between missing data and participant characteristics (i.e., child gender, age, race).

Maternal Data

For mothers' secure base script knowledge, participants' mean score can be averaged from a minimum of two scored stories. Ideally, participants will have four scorable stories. In the event of an un-scorable story (a score of 0, typically associated with sharing an autobiographical story or improper administration of the interview), mothers' mean score for secure base script knowledge will come from her three scored stories.

Descriptive Statistics, Regression Assumptions, and Psychometrics

First, I will report descriptive statistics (means and standard deviations) for all study variables. Then, I will run a first round of analyses to assess if my dataset meets the assumptions of a linear regression (i.e., linearity, homoscedasticity, independence, and normality of the relation between my X and Y variables).

Covariate Selection

Previous research on parenting's impact on gender differences in prosocial behavior is mixed; some work has found clear differences (Hastings et al., 2005), while others find no effects of gender (Wong et al., 2020; Hastings et al., 2007). Much of the disagreement comes from method format; naturalistic observations find little to no gender differences, while lab settings and self-report claim girls are more prosocial (Hastings, Utendale, & Sullivan, 2007). Given this multi-faceted nature (Gross et al., 2017) and this study's measurement of prosocial behavior in a lab visit, I will control for child gender as a covariate.

Upon reviewing previous papers that use the ASA and discussions with Theo Waters, *maternal education* will also be included as an a priori covariate. Maternal education will be transformed into a categorical variable, 0 = not finished college and below and 1 = finished college or more. Multiple options for this covariate (continuous based on number of years of education, categorical in three groups based on previous literature) were considered, but ultimately the two-group method was used to show in a meaningful difference in education (to look at higher education versus less than higher education).

In addition to this a priori covariate, I plan to run a correlation matrix to determine if any other child or mother demographic variables are significant correlated with both the predictor (mothers' secure base scripts) and outcome variables (child attachment, caregiving scripts, and caregiving behaviors). If so, I will also include those variables as covariates in all principal analyses.

Principal Analyses

I plan to conduct linear regressions in SPSS to test direct effects, controlling for empirically derived covariates. I will be using two-tailed tests at standard criteria of alpha < .05.

Model 1

Model 1 examines the direct relations between mothers' secure base script knowledge and child attachment security (see Figure 3). In SPSS linear regression, mothers' ASA score will be entered as the independent variable and child ASCT security score will be entered as the dependent variable.

Model 2

Model 1 examines the direct relations between mothers' secure base script knowledge and child caregiving scripts (see Figure 4). In SPSS linear regression, mothers' ASA score will be entered as the independent variable and child CGST score will be entered as the dependent variable.

Model 3

Model 3 examines the direct relations between mothers' secure base script knowledge and child caregiving behavior (see Figure 5). In SPSS linear regression, mothers' ASA score will be entered as the independent variable and child clipboard task score will be entered as the dependent variable.

Exploratory Analyses

I plan to conduct bootstrapped mediation modeling using PROCESS (Hayes, 2016) in SPSS to test both indirect effects of the meditational model for each child outcome within the same test, controlling for empirically derived covariates. I will be using two-tailed tests at standard criteria of alpha < .05.

Model 1

Model 1 examines the direct and indirect relations between mothers' secure base script knowledge and child attachment security (see Figure 6). In PROCESS, mothers' ASA score will be entered as the independent variable, supportive and unsupportive response to distress from CTNES will be entered as the two mediators, and child ASCT security score will be entered as the dependent variable.

Model 2

Model 1 examines the direct and indirect relations between mothers' secure base script knowledge and child caregiving scripts (see Figure 7). In PROCESS, mothers' ASA score will be entered as the independent variable, supportive and unsupportive response to distress from CTNES will be entered as the two mediators, and child CGST score will be entered as the dependent variable.

Model 3

Model 3 examines the direct and indirect relations between mothers' secure base script knowledge and child caregiving behavior (see Figure 8). In PROCESS, mothers' ASA score will be entered as the independent variable, supportive and unsupportive response to distress from CTNES will be entered as the two mediators, and child clipboard task score will be entered as the dependent variable.

Chapter 4: Results

All preliminary and principal analyses were conducted using IBM SPSS Statistics Version 24 (IBM Corp, 2016). All exploratory analyses were conducted using bias-corrected bootstrapped mediation with 10,000 samples with the PROCESS macro, version 3.5, in SPSS (Hayes, 2016).

In terms of missing data, complete cases of child data were necessary to utilize PROCESS. For mothers' secure base script knowledge, participants' mean scores were averaged from a minimum of two (out of four) scored stories.

Preliminary Analyses

As stated in the Data Analysis Plan and pre-registration (see Appendix I), child gender and maternal education were determined *a priori* as covariates. Bivariate correlations were run to determine if any additional demographic variables should be considered as covariates. In order to do so, the race and maternal education variables were re-coded. Mother and child race were dichotomized into White (coded as 1) and non-White (coded as 2), given the limited sample size for some groups. Maternal education was dichotomized into having completed a college or graduate degree (coded as 1) and not having completed a college or graduate degree (coded as 0).

Descriptive statistics of key study variables are presented in Table 3, while descriptives of demographic variables are reported in the Method. Table 4 shows the correlation matrix among key study variables (predictor, mediators, and outcomes). Significant relations between demographic variables and key study variables are reported in-text below; Table 5 shows the correlation matrix between all demographic

variables and key study variables. I will first address the *a priori* demographic covariates, and then I will discuss the additional demographic variables as potential covariates.

Correlations between a priori Covariates & Key Study Variables

Child gender was significantly related solely to attachment security scores, $t(81) = 3.08$, $p = .03$, such that girls ($M = 3.44$, $SD = 1.14$) scored higher on attachment security than boys ($M = 2.65$, $SD = 1.18$). Child gender was not significantly related to mother's ASA (attachment script assessment) scores, supportive and unsupportive responses to distress, child caregiving script scores, or child caregiving behavior scores. Despite the finding that child gender was not significantly associated with these key study factors, existing literature on gender differences in prosociality (Gross et al., 2017; Hastings et al., 2007) indicates that this may be a covariate of interest. Child gender was therefore used as a covariate for all principal analyses.

Maternal education was significantly related to maternal ASA scores, $t(81) = -2.34$, $p = .02$, such that mothers who pursued higher education ($M = 3.79$, $SD = 1.00$) had higher secure base script knowledge than those who did not ($M = 3.23$, $SD = 1.00$). This was an expected relation, and thus was used as a covariate in all principal analyses.

Significant Correlations between Demographic & Key Study Variables

Income was significantly and positively related to ASA scores, $r = .39$, $p < .01$. However, because income was related solely to the predictor, and not to both the predictor and the outcome variable, it was not included in principal analyses.

Mother race was significantly related to ASA scores, $t(81) = 3.43$, $p = .01$, such that White mothers ($M = 3.93$, $SD = 0.95$) scored higher than non-White mothers ($M = 3.20$, $SD = 0.97$). However, because mother race was not related to *both* a predictor and outcome variable, it was, as with the income variable, not included in principal analyses.

Child race was significantly related to ASA scores, $t(81) = 3.70$, $p < .01$, such that White children's mothers had higher secure base scripts ($M = 4.01$, $SD = 1.00$) than non-White children's mothers ($M = 3.24$, $SD = 0.90$). Additionally, child race was significantly related to child caregiving behavior, $t(81) = -2.11$, $p = .04$, such that non-White children ($M = 2.95$, $SD = 1.59$) show higher caregiving behavior scores than White children ($M = 2.27$, $SD = 1.34$). Therefore, because child race was related to *both* a predictor and an outcome variable, it was included as a covariate for the direct and indirect models with child caregiving behavior as the outcome of interest.

Principal Analyses: Direct Effects

Multiple regression was utilized to test direct effects. All outcome variables met the assumptions for linear regression. Regression analyses statistics are presented in Table 6.

Child Attachment Security

This analysis sought to address the following hypothesis: Mothers' secure base script knowledge will predict children's attachment security. The full model, with secure base script scores and covariates predicting child attachment security, was significant, $R^2 = 0.10$, $p = .03$. However, ASA scores did not significantly predict child attachment security, $\beta = -0.007$, $t = -0.05$, $p = .95$. Overall, this model with all

covariates accounted for 10% of the variance in child attachment security. Given the insignificant model, the relation from mothers' secure base script knowledge to child attachment security, was not supported.

Child Caregiving Scripts

This analysis sought to address the following hypothesis: Mothers' secure base script knowledge will predict children's caregiving scripts. The overall model, with secure base script scores and covariates predicting child caregiving scripts, was not significant, $R^2 = 0.04$, $p = .26$. ASA scores did not significantly predict child caregiving scripts, $\beta = 0.13$, $t = 1.14$, $p = .25$. Overall, this model with all covariates accounted for 4.8% of the variance in child caregiving scripts. Given this insignificant model, the relation from mothers' secure base script knowledge to child caregiving scripts, was not supported.

Child Caregiving Behavior

This analysis sought to address the following hypothesis: Mothers' secure base script knowledge will predict children's caregiving behaviors. The overall model, with mothers' secure base script scores and covariates predicting child caregiving behaviors, was significant, $R^2 = 0.12$, $p = .046$. However, ASA scores did not significantly predict child caregiving behavior, $\beta = -0.13$, $t = -1.10$, $p = .28$. Overall, this model with all covariates accounted for 11.5% of the variance in child caregiving behaviors. Given this insignificant model, the relation from mothers' secure base script knowledge to child caregiving behaviors, was not supported.

Taken together, the principal analyses inform us that mothers' secure base script knowledge does not predict children's caregiving behaviors or scripts.

Additionally, the previous finding that mothers' secure base script knowledge predicts children's attachment security was not found in this particular study.

Exploratory Analyses: Indirect Effects

For each model, maternal secure base script scores (ASA) were entered as the predictor, unsupportive and supportive response to child distress (CTNES) were entered as two mediators, and each outcome was entered and analyzed individually. For each iteration, PROCESS Model #4 (two parallel mediators) was run with confidence intervals set at 95%.

The Indirect Effect of Mothers Secure Base Scripts on Child Attachment Security

This analysis sought to explore the following idea: Mothers' response to child distress will mediate the link between secure base script knowledge and children's attachment security. The overall model, where mothers' secure base script scores predicted child attachment security through the mediator of maternal response to child distress (measured as both supportive and unsupportive responses) was not significant, $R^2 = 0.13$, $p = .051$, while controlling for maternal education and child gender. This model accounts for 13% of the variance in child attachment security.

Within this model, mothers' secure base scripts scores marginally predicted supportive responses to child distress ($\beta = 0.20$, 95% CI [-0.02, 0.30], $p = .08$) and significantly predicted unsupportive responses to distress, such that higher script scores predicted lower rates of unsupportive responses ($\beta = -0.22$, 95% CI [-0.34, 0.001], $p = .05$). Neither supportive ($\beta = -0.15$, 95% CI [-0.65, 0.13], $p = .19$) nor unsupportive ($\beta = 0.03$, 95% CI [-0.31, 0.40], $p = .81$) responses to child distress predicted child attachment security. Thus, there was no support for mediation within

this model, as neither mediator significantly predicted the outcome of child attachment security. Mothers' secure base script scores did not predict child attachment security (β = 0.03, 95% CI [-0.23, 0.31], p = .79). Overall, there was no support for indirect effects of mothers' secure base script scores on child attachment security (95% CI [-0.16, 0.04]).

Given these mixed results, we can conclude that mothers' secure base script scores do predict her behavior in response to child distress, however the overall model (including mothers' scripts, mothers' behavior, and child attachment security) is not supported.

The Indirect Effect of Mothers Secure Base Scripts on Child Caregiving Scripts

This analysis sought to explore the following idea: Mothers' response to child distress will mediate the link between secure base script knowledge and children's caregiving scripts. The overall model, where mothers' secure base script scores predicted child caregiving scripts through the mediator of maternal response to child distress (measured as both supportive and unsupportive responses) was not significant, R^2 = 0.07, p = .31, even when controlling for maternal education and child gender. This model accounts for 7.3% of the variance in child caregiving scripts.

Similar to the model with attachment security, there was some support for mothers' secure base script scores predicting behavior. With the outcome of child caregiving scripts, mothers' secure base scripts scores marginally predicted supportive responses to child distress (β = 0.20, 95% CI [-0.02, 0.30], p = .08) and significantly predicted unsupportive responses to distress, such that higher script scores predicted lower rates of unsupportive responses (β = -0.22, 95% CI [-0.34,

0.001], p = .05). Neither supportive (β = -0.09, 95% CI [-0.26, 0.12], p = .47) nor unsupportive (β = 0.12, 95% CI [-0.09, 0.26], p = .33) responses to child distress predicted child caregiving scripts. Thus, there was no support for mediation within this model, as neither mediator significantly predicted the outcome of child caregiving scripts. Mothers' secure base script scores did not predict child caregiving scripts (β = 0.17, 95% CI [-0.03, 0.23], p = .15). Overall, there was no support for indirect effects of mothers' secure base script scores on child caregiving scripts (95% CI [-0.08, 0.01]).

Given these mixed results, we can conclude that mothers' secure base script scores do predict her behavior in response to child distress, however the overall model (including mothers' scripts, mothers' behavior, and child caregiving scripts) is not supported.

The Indirect Effect of Mothers Secure Base Scripts on Child Caregiving Behavior

This analysis sought to explore the following idea: Mothers' response to child distress will mediate the link between secure base script knowledge and children's caregiving behavior. The overall model, where mothers' secure base script scores predicted child caregiving behavior through the mediator of maternal response to child distress (measured as both supportive and unsupportive responses) was not significant, R^2 = 0.12, p = .13, even when controlling for maternal education, child gender, and child race. This model accounts 11.9% of the variance in child caregiving behaviors.

There was no support for mothers' secure base script scores predicting behavior, neither supportive (b = 0.12, 95% CI [-0.04, 0.29], p = .14) nor

unsupportive (*b* = -0.15, 95% CI [-0.33, 0.03], *p* = .10) responses to child distress. Neither supportive (*b* = -0.11, 95% CI [-0.60, 0.37], *p* = .65) nor unsupportive (*b* = 0.06, 95% CI [-0.39, 0.51], *p* = .79) responses to child distress predicted child caregiving behaviors either. Thus, there was no support for mediation within this model, as neither mediator significantly predicted the outcome of child caregiving behaviors. Mothers' secure base script scores did not predict child caregiving behaviors (*b* = -0.17, 95% CI [-0.52, 0.19], *p* = .36). Overall, there was no support for indirect effects of mothers' secure base script scores on child caregiving behaviors (95% CI [-0.14, 0.07]).

Taken together, our exploratory analyses tell us that mothers' secure base script knowledge predicts her unsupportive response to distress (see Figure 9). Similarly, this same relation was found at a marginal level of significance for mothers' supportive responses to child distress (see Figure 10). However, there was no evidence of mediation, for any of the three outcomes. Maternal response to child distress does not mediate the relations between mothers' secure base script scores and children's attachment security, caregiving scripts, or caregiving behavior.

Chapter 5: Discussion

The principal goals of this study were: (a) to replicate the link between mothers' secure base scripts and children's attachment security, (b) investigate new links between mothers' secure base scripts and children's caregiving, and (c) explore how mothers' behavior may play a role in these relations. Though no set of the hypotheses (a priori or exploratory) were supported, conclusions can still be discussed, particularly regarding how mothers' secure base scripts influence parenting behaviors. In the following sections, I will first review each of the findings related to mothers' secure base scripts in the following order: child attachment security, child caregiving scripts and behaviors, and indirect effects of maternal response to child distress. Then, I will address implications of this project overall. Next, I will discuss limitations of the project overall (limitations related to each individual finding will be discussed in the first section). Finally, I will close with next steps for this project and future research directions.

For each finding, I will summarize the results and consider how factors related to the present study (such as sample characteristics or measurement administration) may have impacted the results. For each measure, there is of course the possibility of error in measurement administration. However, this is unlikely for mothers' secure base scripts, given its similarity to other studies in terms of score range (McLear et al., 2015; Wong et al., 2011; and more) as well as the high inter-rater reliability.

Summary & Discussion of Findings

Finding #1: Mothers' Secure Base Scripts & Children's Attachment Security

Summary. For Hypothesis 1a (see Figure 3), I investigated the direct effect of mothers' secure base scripts on children's attachment security. The general purpose of investigating this path was replication, given previous literature demonstrating the intergenerational link between mother and child attachment representations (Wong et al., 2011). However, the hypothesis was not supported; mothers' secure base scripts did not predict children's attachment security. Given our findings, it seems there is not a clear relation between mothers' representations of attachment and children's attachment security, despite previous literature suggesting otherwise.

Divergence from Past Literature. This finding is divergent from past literature (Wong et al., 2011), which found that mothers' secure base scripts did predict child attachment security via the ASCT. In addition, a host of previous literature predicts child attachment security (via Attachment Q-Sort or the Strange Situation) from mothers' secure base scripts (Tini et al., 2003; Verissimo & Salvaterra, 2006; and more). Wong's sample was younger (2 to 3 years old, M_{age} = 2.66; the sample presented here was 4 years old, M_{age} = 4.45) and was made up of both American and Portuguese mother-child dyads. One possibility for the divergent results is the culture and age difference of Wong's sample and the present sample.

Additionally, a second possibility for the divergent results is perhaps an error in the administration and/or coding of the Attachment Story Completion Task in the present study (ASCT; Bretherton et al., 1990). Given the direction of the relation between mothers' secure base script knowledge was in the opposite direction as expected in the present study and opposite as seen in previous research (Wong et al., 2011), this is a potential consideration.

Moreover, a third possibility for the divergent results, and perhaps the most likely, is that the link between mothers' secure base scripts and child attachment security is not found with this particular assessment of child attachment security. Only one study (Wong et al., 2011) has found this link with the Attachment Story Completion Task, though many links have been found when attachment was assessed with the AQS (Monteiro et al., 2008; Verissimo & Salvaterra, 2006; and more) and the Strange Situation (Tini et al., 2003). It may be that the ASCT is not sensitive to the construct of mothers' secure base scripts, though other measures of child attachment security are.

Therefore, this singular insignificant result does not give us enough confidence to doubt the relation between mothers' attachment representations and children's attachment representations. Nearly a dozen studies have demonstrated the link between mothers' secure base scripts and children's attachment security; this small study in comparison does not have enough power to suggest the previous work is incorrect (Bost et al., 2006; Vaughn et al., 2007; Verissimo & Salvaterra, 2006).

It is also interesting to note that child gender was significantly associated with child attachment security scores in the present sample, such that girls had higher security scores than boys. Traditionally, the literature does not support the notion that there are gender differences in attachment security (Bakermans-Kranenburg & Van Ijzendoorn, 2009). This peculiar result also muddles the interpretations of findings on child attachment security.

Future Directions. Future work should attempt to figure out the current study's failure to replicate the finding between mothers' secure base scripts and child

attachment security. This work should clarify why the link exists in some cases but not others, which would in turn inform us of the nature and parameters of this link between mother and child attachment representations.

Finding #2: Mothers' Secure Base Scripts & Children's Caregiving

Summary. For Hypotheses 1b (see Figure 4) and 1c (see Figure 5), I investigated children's caregiving scripts and behaviors separately as direct effects of mothers' secure base scripts. The purpose of investigating these paths was to consider children's socio-emotional outcomes, distal from attachment security, that may be impacted by mothers' representations of attachment. However, neither hypothesis was supported. These novel models, with child socio-emotional outcomes beyond attachment security, were not significant, such that mothers' secure base scripts do not seem to be a strong predictor of these prosociality outcomes.

Divergence from Past Literature. One possibility for the null results is measurement error, particularly for the assessment of child caregiving scripts. The measure for child caregiving scripts was developed for this research project specifically and is not validated across multiple samples (nor have psychometric properties beyond this study been assessed). In regards to child caregiving behavior, it may be that those behaviors are best learned from actual parenting behaviors, rather than just mothers' representations of attachment.

Another possibility for the null results is simply that the relation does not exist. The two outcomes of child caregiving scripts and behaviors were newly and uniquely studied in this project; however, neither were significantly predicted by mothers' secure base scripts. Only two previous studies found links between mothers'

secure base scripts and child outcomes distal from attachment security (social competence in Sparks et al., 2018; academic achievement in McLear et al., 2015). Additionally, a third study that attempted to connect an outcome beyond attachment security (ADHD symptoms) reported null results (Guttmann-Steinmetz et al., 2011). Considering these three previous studies and the present study together, it very well may be that mothers' secure base scripts do not robustly predict socio-emotional outcomes.

Future Directions. Future research on children's caregiving should include multiple components. For one, this study looked at child caregiving scripts and behaviors separately, but the relation between these two variables themselves is not yet understood. Previous work using this same dataset did not find a relation between child caregiving scripts and behaviors, despite hypotheses and background research suggesting child caregiving scripts might predict caregiving behaviors. Thus, in order to better understand how parents' secure base scripts predict child caregiving, we must first better understand the relation between the different measurement types of child caregiving (scripts versus behaviors). Understanding how these two variables operate together would provide information as to how and which socio-emotional outcomes of maternal secure base scripts may relate to one another. Additionally, perhaps we also should first look at other subtypes of mothers' attachment, such as attachment style (measured with the ECR) or attachment state of mind (measured with the AAI), and how those relates to child caregiving scripts and behaviors.

Another option is to look at other forms of prosocial behavior, considering previous literature supports the notion that parents' representations of attachment

impact their children's prosocial behavior (Shaver et al., 2016; Stern & Cassidy, 2017). Caregiving is just one dimension of prosociality and was not found to be predicted by mothers' representations of attachment in the present sample, however other prosocial behaviors like helping or sharing could be studied as outcomes.

Finding #3: Mothers' Secure Base Scripts, Children's Outcomes, & Mediators of Supportive and Unsupportive Responses to Distress

Summary. Although there were no direct effects to mediate, we were still interested in investigating the exploratory mediational effects (see Figures 6, 7, and 8). We found no evidence of mediation [path C'], which is not surprising given all three direct effects (mother's secure base scripts on each of the three child outcomes) were insignificant [Path C]. Additionally, we found no support that mothers' response to child distress predicted any of the three child outcomes [Path B]. However, there was evidence that mothers' secure base scripts predicted (or marginally predicted) mothers' behavior, specifically unsupportive responses to distress and supportive responses to distress respectively [Path A] (see Figures 11 and 12).

These results should be interpreted with caution. Typically in exploratory analyses, hypotheses are not set and *p*-values are not considered as markers of significance (Nosek et al., 2018). Given that this project is a thesis and previous literature supports the notion that mothers' secure base scripts predict her behavior (Coppola et al., 2006; Huth-Bocks et al., 2014), specific hypotheses were developed, and *p*-values were interpreted for these analyses.

Convergence with Past Literature. As a result, we can consider the idea that mothers' representations of attachment do predict her parenting behavior. Moreover,

this finding is supported by previous literature. This significant Path A (maternal secure base scripts predicting maternal behavior) is convergent with other literature on mothers' representations of attachment predicting parenting behavior, like maternal sensitivity (Coppola et al., 2006) and positive parenting (Huth-Bocks et al., 2014). This suggests that mothers' internal working models do predict how they will behave, because they rely on their representations to inform decisions and behaviors (Waters et al., 2017). While the evidence is stronger for mothers' representations of attachment (negatively) predicting her unsupportive responses to child distress, both supportive and unsupportive responses seem to be impacted by mothers' internal working models. Imagine a mother with high secure base script knowledge, meaning she has a script for sensitive and effective responsiveness to the needs of others (like a child or partner). What our Path A has demonstrated is that a mother's representations of how to respond to a situation of distress actually does predict greater supportive (like taking the child's emotions into account) and less unsupportive (punitive or minimizing responses to the child's emotions) behaviors in actuality.

Moreover, the insignificant Path B (where maternal response to child distress predicts child outcomes) draws attention to measure administration issues yet again. Given previous literature links maternal response to child distress and child attachment security (Ainsworth et al., 2015; Leerkes et al., 2009; Leerkes et al., 2004; McElwain & Booth-LaForce, 2006), our insignificant result here also suggests our child attachment security measure may be problematic.

Future Directions. Next steps should focus on theoretical and practical work on mothers' secure base scripts and children's outcomes beyond security, and consider what additional mechanisms may be impacting those relations. Specifically, the Path B (where mothers' behavior predicts child outcomes) should be studied with different socio-emotional constructs. Perhaps the link does not exist for child caregiving as a result of mothers' responses to child distress, but impacts other outcomes involved in children's social development.

Implications

Attachment theory at its core states that children develop their attachment security to a caregiver or parent based on that adult's typical pattern of response to the child's needs (Main et al., 1985). This study upheld the principle of attachment theory that mothers' representations of attachment influence their own caregiving behaviors. However, mothers' representations of attachment did not themselves predict child outcomes of security (divergent from the attachment theory principle of intergenerational transmission of attachment) or outcomes distal from child security, such as caregiving scripts and caregiving behaviors.

For measurement implications, this study provided a new and unique measurement of child caregiving scripts, a distinct type of prosociality. These measures were also observational with a young age group, which is considered a stronger measure than self-reports. However, these measures need additional work to assess their psychometric properties.

While no set of the hypotheses were supported, this study adds to the growing number of papers that utilize the Attachment Script Assessment. Specifically, this

paper attempted to connect mothers' secure base script knowledge with children's outcomes beyond security, which very few studies using the ASA have done so far. This work revealed that mothers' secure base scripts predict mothers' supportive and unsupportive responses to child distress. This finding adds to similar research showing that attachment representations influence parenting behavior with young children.

This work also revealed that there is not a clear, direct link between mothers' representations of attachment and children's caregiving scripts and behavior. The proposed model with mothers' secure base scripts and caregiving outcomes is novel and important to study, considering the evidence in previous literature for maternal attachment predicting child socio-emotional outcomes, specifically prosociality. Theoretically these models are sound: mothers' representations of attachment predict children's outcomes, both attachment security and distal ones, yet there was no evidence for them in the present study. Additionally, given the previous literature on mothers' representations of attachment predicting children's attachment security, the null result of that model should not be considered too seriously. Support for this hypothesis, with the outcome of child attachment security, might have been stronger if we had used a different measurement (such as the Attachment Q-Sort or the Strange Situation). Conversely, the notion that secure base scripts predict parenting behavior is also theoretically sound, supported in the current study, and informative for future work.

For applied implications, these findings add greater specificity to what was already known: that internal working models influence behavior. This information is

largely useful for parenting interventions. Intervention work can target parents' representations of attachment, or their thoughts and feelings towards relationships, to improve or change behavior toward their children. What this work in particular demonstrates is that the Attachment Script Assessment is an adequate measurement of maternal internal working models, since the long-supported notions of thoughts predicting behaviors is found here in this study.

Limitations

There is one design or internal validity concern that should be addressed. For children's outcome measures, the clipboard task (of caregiving behavior) occurred at an earlier visit than the predictor variable (ASA) and the other child outcomes (attachment security and caregiving scripts). These visits occurred within two weeks of each other, which is typically considered as "concurrent timing" in the literature. However, the possibility of order effects is not entirely ruled out. Ideally, the study would have been structured in a more precise longitudinal fashion, as follows: Visit 1: mother ASA and CTNES; Visit 2: child ASCT, CGST, Clipboard task (each counterbalanced and with effective neutralizing tasks in between). Were the study structured in this format, any possibility of order effects could be ruled out.

As for external validity, this sample was small and lacked sufficient power to make medium or strong conclusions. However, there was decent diversity in race and income across the sample, and consistency across child age. These sample characteristics allow for generalizability to other 4-year-old children across the nation, though they cannot be extended to other groups.

Moreover, the larger concern to be addressed is the limitation regarding analyses and statistical power. As stated previously, the small sample size resulted in insufficient power. Given previous literature stated in the Data Analysis Plan, we anticipated a medium effect size, but this was not found. Future iterations of the study ought to include a much larger sample, which may resolve the analysis issues presented here.

Future Directions

First, a study should be conducted with the same age group/characteristics as the present study that tests the link between mothers' representations of attachment and child attachment security. This replication would confirm that the relation does exist, despite the results found here. From there, researchers would be better informed of distal outcomes of mothers' secure base scripts (i.e., child caregiving scripts and behaviors could be looked again once the attachment outcome had been established via replication).

If this basic replication also finds no such relation between mothers' and children's representations of attachment, it would give us more confidence that this connection between maternal secure base scripts and child attachment security does not exist, perhaps for children of this age or when utilizing the ASCT measure.

For future work to advance this research question, this study could be re-done with a school-age or adolescent sample, using the adolescent version of ASA (to connect mothers' secure base scripts to teens' secure base scripts), and see how that predicts other adolescent socio-emotional outcomes. In the same vein of broadening the sample characteristics, this study could also be replicated or conducted with a

cross-cultural group, considering Wong and colleagues (2011) work was conducted with an American and Portuguese sample.

Conversely, research on distal outcomes of mothers' secure base scripts could go in an entirely different direction. Waters and colleagues are in the early stages of analyzing mental and physical health outcomes of secure base scripts; perhaps physiological or psychopathological constructs will be more closely tied to representations of attachment than the socio-emotional outcomes proposed here.

In conclusion, I sought to replicate and advance findings on children's outcomes of mothers' secure base script knowledge in the present study. What we expected to find was that parents serve as example for children's development of attachment and caregiving behavioral system; parents' own cognitions about caregiving predict how they act toward their child in time of distress, which may be associated with how that child might respond to others. However, this was not found with our sample, though the theory behind it is sound and these research questions should be asked again (with modifications to the procedure/design).

Appendices

Appendix A: IRB Approval

UNIVERSITY OF MARYLAND

INSTITUTIONAL REVIEW BOARD

1204 Marie Mount Hall
College Park, MD 20742-5125
TEL 301.405.4212
FAX 301.314.1475
irb@umd.edu
www.umresearch.umd.edu/IRB

DATE: May 26, 2020

TO: Jude Cassidy, PhD
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [650635-13] Attachment and Prosocial Behavior in Preschool Children
REFERENCE #:
SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: ACKNOWLEDGED; Subpart D applies, 45CFR46.404
EFFECTIVE DATE: May 26, 2020
EXPIRATION DATE: June 4, 2021

Thank you for submitting the Continuing Review/Progress Report materials for this project. The University of Maryland College Park (UMCP) IRB has ACKNOWLEDGED your submission. No further action on submission 650635-13 is required at this time.

The following items are acknowledged in this submission:

a. Continuing Review/Progress Report
b. Training/Certification

If you have any questions, please contact the IRB Office at 301-405-4212 or irb@umd.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Maryland College Park (UMCP) IRB's records.

Appendix B: CTNES Questionnaire

CTNES

Example

Please read the situation below.
Then, think about how likely you would be to respond in EACH of the ways listed.
Select a number on the scale from 1 (very unlikely) to 7 (very likely) to say how likely you would be to respond in EACH way.
(You can select a number more than once.)

If my cat runs away from home, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
d. panic and put up "lost cat" flyers	○	○	○	○	○	○	○
e. call my neighbors in case they see the cat	○	○	○	○	○	○	○

When My Child is Upset

Read each sentence about ways your child might act. Circle the number that tells how likely it is that you would respond to your child that way. Read each item carefully. Respond as honestly as you can. For each question, circle one number for EACH item (a-g).

If my child becomes angry because (s)he wants to play outside and cannot do so because (s)he is sick, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
Feel upset myself	○	○	○	○	○	○	○
b. Tell my child we will not get to do something else fun (i.e., watch TV, play games) unless (s)he stops behaving like that	○	○	○	○	○	○	○
c. Tell my child it's ok to be angry	○	○	○	○	○	○	○

a. Soothe my child and/or do something with him/her to make him/her feel better	○	○	○	○	○	○	○
b. Help my child find something (s)he wants to do inside.	○	○	○	○	○	○	○
c. Tell my child that (s)he is making a big deal out of nothing	○	○	○	○	○	○	○
d. Let my child play outside	○	○	○	○	○	○	○

If my child spilled something and made a big mess on the carpet, and then gets upset and cries, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
a. Comfort my child by picking him/her up and/or trying to get him/her to forget about the accident	○	○	○	○	○	○	○
b. Tell my child that (s)he is overreacting or making a big deal out of nothing	○	○	○	○	○	○	○
c. Remain calm and not let myself get upset	○	○	○	○	○	○	○
d. Send my child to his/her room for making a mess	○	○	○	○	○	○	○
e. Help my child find a way to clean up the mess	○	○	○	○	○	○	○
f. Tell my child that it is ok to be upset	○	○	○	○	○	○	○

If my child loses a favorite toy (for example, favorite blanket or stuffed animal) and reacts with tears, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
a. Go and buy my child a new item	○	○	○	○	○	○	○
b. Help my child think of other places to look for the toy	○	○	○	○	○	○	○
c. Distract my child with another toy to make him/her feel better	○	○	○	○	○	○	○
d. Tell my child that it is not that important	○	○	○	○	○	○	○
e. Tell my child it is his/her fault for not being careful with the toy	○	○	○	○	○	○	○
f. Feel upset myself	○	○	○	○	○	○	○

If my child is afraid of going to the doctor or of getting shots and becomes quite shaky and teary, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
a. Tell him/her to shape up or (s)he won't be allowed to do something (s)he likes to do (for example, go to playground)	○	○	○	○	○	○	○
b. Tell my child that it is ok to be nervous or afraid	○	○	○	○	○	○	○
c. Tell my child that it's really no big deal	○	○	○	○	○	○	○
d. Comfort my child before and/or after the shot	○	○	○	○	○	○	○
e. Leave the doctor's office and reschedule for another time	○	○	○	○	○	○	○
f. Help him/her think of ways to make it less scary, likesqueezing my hand when (s)he gets a shot	○	○	○	○	○	○	○

If my child is going to spend the afternoon with a new babysitter and becomes nervous and upset because I am leaving him/her, I would:

	Very Unlikely			Medium			Very Likely
	1	2	3	4	5	6	7

a. Distract my child by playing and talking about all of the fun (s)he will have with the sitter	○	○	○	○	○	○	○
b. Feel upset or uncomfortable because of my child's reactions	○	○	○	○	○	○	○
c. Tell my child that (s)he won't get to do something else enjoyable (like go to playground) if (s)he doesn't stop behaving like that	○	○	○	○	○	○	○
d. Tell him/her that it's nothing to get upset about	○	○	○	○	○	○	○
e. Change my plans and decide not to leave my child with the sitter	○	○	○	○	○	○	○
f. Help my child think of things to do that will make it less stressful, like me calling him/her once during the evening	○	○	○	○	○	○	○
g. Tell my child that it's ok to be upset	○	○	○	○	○	○	○

If my child becomes upset and cries because (s)he is left alone in his/her bedroom to go to sleep, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
Become upset myself	○	○	○	○	○	○	○
b. Tell my child that if (s)he doesn't stop crying, we won't do something fun when (s)he wakes up	○	○	○	○	○	○	○
c. Tell my child it's okay to cry when (s)he is sad	○	○	○	○	○	○	○
Soothe my child with a hug or kiss	○	○	○	○	○	○	○
e. Help my child find ways to deal with my absence (hold a favorite stuffed animal, turn on a nightlight, etc.)	○	○	○	○	○	○	○
f. Stay with my child or take him/her out of the bedroom to be with me until (s)he falls asleep	○	○	○	○	○	○	○
Tell him/her that there is nothing to be afraid of	○	○	○	○	○	○	○

If my child becomes angry because (s)he is not allowed to have a snack (i.e., candy, ice cream) when (s)he wants it, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
a. Send my child to his/her room	○	○	○	○	○	○	○
b. Give my child the snack that (s)he wanted	○	○	○	○	○	○	○
c. Distract child by playing with other toys or games	○	○	○	○	○	○	○
d. Tell him/her that there is no reason to be upset	○	○	○	○	○	○	○
e. Tell my child it's okay to feel angry	○	○	○	○	○	○	○
f. Help my child think of something to eat that (s)he is allowed to have between meals	○	○	○	○	○	○	○
g. Feel angry at my child's behavior	○	○	○	○	○	○	○

If my child becomes upset because I removed something that my child should have not been playing with, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
a. Tell my child that if (s)he touches it again (s)he will not beallowed to do something enjoyable	○	○	○	○	○	○	○
b. Help my child think of something else to do that is fun	○	○	○	○	○	○	○
c. Become upset myself	○	○	○	○	○	○	○
d. Tell my child it's okay to feel angry	○	○	○	○	○	○	○
e. Distract my child with something else interesting	○	○	○	○	○	○	○
f. Give my child what (s)he wants	○	○	○	○	○	○	○
g. Ignore my child's upset reactions and take the object away	○	○	○	○	○	○	○

If my child wants me to play with him/her and I cannot do so right then (i.e., I am on the phone, in the middle of a conversation with someone), and my child becomes upset, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
a. Feel upset myself	○	○	○	○	○	○	○
b. Tell my child that there is nothing to be upset about	○	○	○	○	○	○	○
c. Help my child find something to do while (s)he waits for me to play with him/her.	○	○	○	○	○	○	○
d. Tell my child I won't play with him/her later if (s)he doesn't stop behaving like that	○	○	○	○	○	○	○
e. Tell my child it's okay to be upset	○	○	○	○	○	○	○
f. Stop what I'm doing so I can play with my child	○	○	○	○	○	○	○
g. Soothe my child and talk to him/her to make him/her feel better	○	○	○	○	○	○	○

If my child is playing with a puzzle or shape sorter toy and cannot fit a piece correctly, and gets upset and cries, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
a. Remain calm and not let myself get anxious	○	○	○	○	○	○	○
b. Take the toy away from my child	○	○	○	○	○	○	○
c. Comfort my child with a pat or a kiss	○	○	○	○	○	○	○
d. Put the piece in for my child	○	○	○	○	○	○	○
e. Tell my child it's okay to get frustrated and upset	○	○	○	○	○	○	○
f. Help my child figure out how to put the piece in correctly	○	○	○	○	○	○	○
g. Tell my child it's nothing to cry about	○	○	○	○	○	○	○

If my child has climbed onto a piece of playground equipment and gets stuck, and becomes nervous and begins to cry, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
1. Become anxious myself	○	○	○	○	○	○	○
2. Help my child figure out how to get down from the climber	○	○	○	○	○	○	○
3. Take my child down from the climber	○	○	○	○	○	○	○
4. Tell my child (s)he shouldn't have gone up by him/herself.	○	○	○	○	○	○	○
5.	○	○	○	○	○	○	○

If my child fell down and scraped him/herself while trying to get a favorite toy, I would:

	Very Unlikely 1	2	3	Medium 4	5	6	Very Likely 7
1) Become upset myself	○	○	○	○	○	○	○
2) Help my child figure out how to feel better (getting a band- aid)	○	○	○	○	○	○	○
3) Distract my child with something else	○	○	○	○	○	○	○

e. Tell my child its nothing to get upset about	○	○	○	○	○	○	○
f. Tell my child it's okay to cry	○	○	○	○	○	○	○

Narrative Assessment of Adult Attachment Representations:

The Scoring of Secure Base Script Content

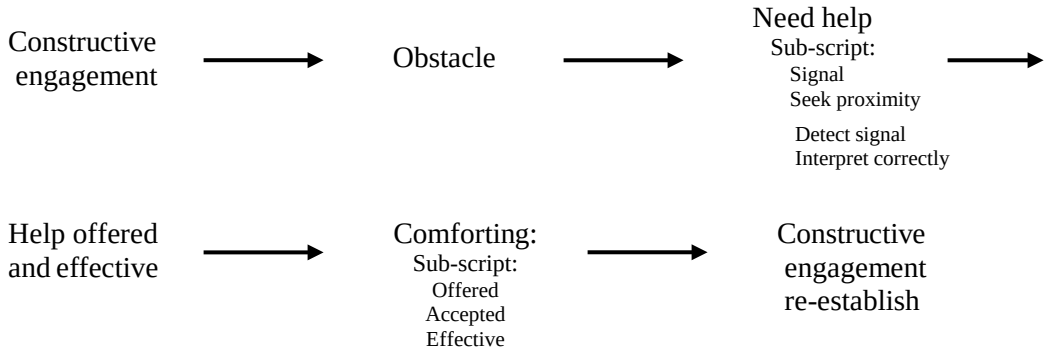
Harriet Salatas Waters and Lisa M. Rodrigues-Doolabh

State University of New York at Stony Brook

I. Definition of a Secure Base Script

Bowlby and Ainsworth describe the infant (child)-mother relationship in terms of a balance between proximity seeking and exploration. This balance can be summarized in terms of a prototypic secure base script. This script describes a sequence of events in which the caregiver (1) supports the child's exploration, (2) remains available and responsive and serves as a resource as necessary; (3) the child encounters an obstacle or threat and becomes distressed; (4) either the child retreats to the caregiver or the caregiver goes to the child; (5) the difficulty is resolved or removed; (6) proximity and/or contact with the caregiver effectively comforts the child; (7) the child (possibly with the caregiver's assistance) returns to constructive play (or ends play comfortably and makes a transition to another activity). Bowlby hypothesized that familiarity with and access to this script plays an important organizing role in the attachment-exploration balance during infancy and early childhood and is the foundation for attachment "working models" that emerge later.

Content of A Generalized (Dyadic)
Secure Base Script



II. Secure Base Script Content (Adult attachment narratives)

Four attachment prompt word outlines were developed to guide story production about attachment relevant scenarios (Baby's Morning, The Doctor's Office, Jane and Bob's Camping Trip, Sue's

Accident). Two are mother/child scenarios (Baby's Morning, The Doctor's Office) and two are adult/adult scenarios (Jane and Bob's Camping Trip, Sue's Accident). We broadly define a

prototypic secure script as one in which the secure base (mom/partner) helps the individual (character in story) deal with some distress and helps to get things back to normal. In more positive scenarios, the goal of the secure base is to facilitate exploration, promoting positive experiences. Stories organized around a secure base script will have:

1. *the secure base helping to select and implement strategies for getting things back to normal and defusing the emotional distress, when that is possible, or avoiding distress altogether by facilitating transitions to other activities (for a baby or child) and providing explanatory frameworksto help understand the situation (for young child)*
2. *the secure base reconfiguring the person's representation to focus on more positive aspects,thereby diffusing the negative emotion. This often involves pointing out the "bright" side of a situation, e.g., we'll certainly talk about this trip for years to come.*
3. *an interpersonal focus, that is, a sensitivity to and awareness of the other person's psychological/emotional state. The content of secure base narratives focuses on the interaction between the two individuals rather than simply describing the sequence of events in the story. The secure base responds to requests, cues from child/partner, modifying their own behavior as a consequence. There is give-and-take, with each partner making their own unique contribution to thesituation, activity, but working together "as a team." There is also emotional give-and-take with anexpressed emotion in one leading to an emotional response in the other.*

III. Scriptedness Scoring System

Highest ranked stories are those with extensive secure base content and a strong interpersonal framework. Stories lower in rankings would have less and less of the secure base content. At some point low ranked stories would begin to contain unusual "atypical" content, i.e., content inconsistent

with a secure base script. There would also begin to be breaks in the coherence of story events, with emotional content just there, with no follow-up or reaction from the secure base character. The worst

stories essentially eliminate the partner in the secure base pairing (child or adult partner) as an active participant in the story, even going so far as to redirect the focus of the story onto the self (e.g., Baby's Morning focuses solely on mother's experiences). In order to capture the full range of secure base scriptedness in the stories, a seven point scale was developed (described below).

7. These are the very best examples of secure base content in the narrative. There is a rich interplay between the two principal characters. There is a great deal of attention to the psychological state of the other, and the "secure base" is very responsive to that psychological state. Important to the secure base script is the resolution of the problem/distress with a return to normalcy.

6. These narratives fall short of the richness of secure base content that is evidenced in stories ranked "7". Nonetheless, these stories to contain a reasonable amount of secure base content.

5. These narratives have a medium amount of secure base content, but not as much elaboration as those that are ranked "7" or "6".

4. These narratives have some secure base content, but not very much. Thus, they are weak on secure base content, but there is no unusual or atypical content contained in the story either.

3. These narratives seem mostly event-related stories, in which what is happening is presented, with very little commentary on the give and take between with the characters, or on the psychological content of the story.

2. These are event-related as well, but so brief as to seem disjointed. Also included in this category are longer narratives that contain some unusual or atypical content that is inconsistent with a secure base script. The intrusion of this content however is not as consistent or pervasive as the narratives that are scored "1."

- These narratives are theme-based variations that come across as quite peculiar interpretations of the implied story line. Not only is the secure base script not recognized, but a quite different script isin its place. The narratives can be quite detailed, with content generated consistent with the peculiar interpretation of the story line. These are not that common.

Narratives that have significant unusual or atypical content, but fall short of a complete theme-based variation also receive a "1." Narratives in which a role reversal occurs, i.e., child takes on the role of a secure base also receive a "1."

The following pages contain descriptions of how the secure base script is instantiated for each attachment scenario along with sample narratives that span the range from good secure base content

to the absence of such content to sample narratives that recast the story line (and avoid addressing the implied attachment scenario).

A. Baby's Morning

mother	**hug**	**teddy bear**
baby	**smile**	**lost**
play	**story**	**found**
blanket	**pretend**	**nap**

In this attachment story, secure base content first appears in the interaction between the mother and baby as the baby's cries awaken the mother. Good secure base content would include interactions in which the mother and baby respond to each other's cues, e.g., a smile in one leads to a smile in the other. Attentiveness to the baby's psychological state would also be part of the script content, e.g., noting how much the baby enjoyed playing a particular game, or hearing a particular story. As the story moves forward there is an opportunity for the mother character to handle a small crisis, i.e., where is the teddy bear? Stories are scored for secure base content that include awareness of the need to find the teddy bear, recognizing that the child's transition to nap time would be adversely affected, and an active effort to engage the baby in the search, making it a joint activity. Story variations in which the teddy bear is part of a pretend story are fine, and can be scored for secure base content in the same way as the earlier story interactions. Finally secure base content is also scored in the transition to sleep at the end of the story, noting to what degree the mother attends to smoothing the way to sleep, e.g., rocking the baby to sleep, or saying "Good night, I'll see you in a little while", etc.

<u>Examples of Secure Base Content from Baby's Morning</u>

- *the secure base helping to select and implement strategies for getting things back to normaland defusing the emotional distress, when that is possible, or avoiding distress altogether by*

facilitating transitions to other activities (for a baby or child) and providing explanatory frameworks to help understand the situation (for young child)

e.g., "Well, let's think really hard. If I were a teddy bear where would I be?" (memory retrieval strategy used by mom to help child find lost Teddy Bear)

e.g., "Mom gently laid the baby in the crib and told her that it was time for a nap, and that she would see her in just a little while when she woke up. And mom kissed the baby on the cheek and quietly walked out the room and said "Good night, baby." (transition to nap time)

- *the secure base reconfiguring the person's representation to focus on more positive aspects,thereby diffusing the negative emotion. This often involves pointing out the "bright" side of a situation, e.g., we'll certainly talk about this trip for years to come.*

(not really relevant to this story, baby is too small for directing comments to help shape how the baby thinks about a situation, plus there is no serious crisis/distress in this story)

- *an interpersonal focus, that is, a sensitivity to and awareness of the other person's psychological/emotional state. The content of secure base narratives focuses on the interaction between the two individuals rather than simply describing the sequence of events in the story. The secure base responds to requests, cues from child/partner, modifying their own behavior as a consequence. There is give-and-take, with each partner making their own unique contribution to thesituation, activity, but working together "as a team." There is also emotional give-and-take with anexpressed emotion in one leading to an emotional response in the other.*

e.g., “Baby wanted to play hide and go seek so mother went and got a blanket from the baby’s room.” (responding to request)

e.g. “The little baby Sarah wanted to give her mom a hug also. So she reached up and gave her mom a really big hug. And this made her mom smile even more.” (emotional give-and-take)

e.g., “And the mom would just smile at her and the baby would coo and laugh at the mom. She liked to laugh at the faces mom made.” (emotional give-and-take)

e.g., “Mother knew that baby would not nap without her teddy bear.” (aware of psychological state of other)

e.g., “And pretend that the teddy bear is hiding. The baby is looking for the teddy bear, and it pops out from behind mom. And the baby is very happy because he’s found the teddy bear. They play for a little bit longer. The baby seems to be getting tired and mom puts the baby down for a nap.” (awareness of baby’s psychological state)

B. The Doctor's Office

Tommy	**hurry**	**mother**
bike	**doctor**	**toy**
hurt	**cry**	**stop**
mother	**shot**	**hold**

In this attachment story, the crisis situation begins with the child falling off his bike and being hurt. This is the first opportunity for mom to take action as a secure base, and/or for the child to effectively seek out his secure base. Secure base content focuses on mom's recognition, not only of the need to get Tommy to the doctor, but of the need to calm Tommy down and reassure him that everything will be all right, and that if he needs a shot it will only hurt for a moment. The story then moves to the actual doctor's office, and the need to calm Tommy down as he faces the shot and/or stitches. Secure base content is scored for mother's efforts at providing an explanation of what is happening, how much it will hurt, etc. Recognizing that some comforting is needed as the doctor proceeds, e.g., holding Tommy's hand, or even stopping the doctor a moment to give Tommy a hug is also scored as secure base content. Once the trauma of the doctor's office is over, the mother's continued efforts at getting things back to normal involve praising the child for his good behavior at the doctor's office and offering to reward that behavior by buying Tommy a toy. When the toy is used for this purpose, and/or to provide Tommy with something to do while his knee heals, and Tommy gets to choose something he likes (i.e., his needs, preferences count for something) the story is scored for secure base content. Using the toy to stop Tommy from crying,

or as something which is given at the doctor's office as a matter of form does not count as secure base content.

Examples of Secure Base Content from The Doctor's Office

the secure base helping to select and implement strategies for getting things back to normal and defusing the emotional distress, when that is possible, or avoiding distress altogether by facilitating transitions to other activities (for a baby or child) and providing explanatory frameworks to help understand the situation (for young child)

e.g., "Tommy started to cry again, but the mother was able to hold him and he stopped crying. The doctor needed also to stitch up his chin so Tommy started to cry again. And his mother said, "Doctor can you just stop for one minute? Let me hold him and I'll be able to calm him down." (strategy for defusing emotional distress)

e.g., (Doctor says) "We'll have to give you a stitch. But only a few stitches. But everything will be okay. And his mother reassured him, "It might hurt for a minute Tommy, but its going to be okay." Tommy was still very upset, held his mother's hand real tight with his mom standing right next to him." (mother provides comfort, both in the way of explanation and physical closeness)

e.g., (in this story, Tommy had been hurt because when he went into the street a biker ran into him) "You know Tommy, you have to understand, when you're playing in the front yard, you have to stop at the curb. And if you wanted to cross the street you have to hold somebody's hand, and the person should be an adult." (mother provides explanation and strategy for avoiding another fall)

the secure base reconfiguring the person's representation to focus on more positive aspects, thereby diffusing the negative emotion. This often involves pointing out the "bright" sideof a situation.

e.g., “And his mom says to him that because he was such a good boy that she will take him to the store and buy him something. But it’s not gonna be another bicycle because we had enough

trauma on that today. And Tommy was very happy because now he feels that now he was a big boy cause he went to the doctor, and he got his bandage all taken care of and now he's going to be rewarded for being so good while he was there." (mother focuses on the fact that Tommy was so good at the doctor's office)

e.g., "Tommy was proud of himself and his mother said "Tommy, you did a wonderful job. You did real good, mom was very proud. You didn't cry too much, and see, now your leg is gonna heal up real nice and be all better." (mother focuses on positive outcome, leg looks better, as well as how good Tommy was)

> *an interpersonal focus, that is, a sensitivity to and awareness of the other person's psychological/emotional state. The content of secure base narratives focuses on the interaction between the two individuals rather than simply describing the sequence of events in the story. Thesecure base responds to requests, cues from child/partner, modifying their own behavior as a consequence. There is give-and-take, with each partner making their own unique contribution to the situation, activity, but working together "as a team." There is also emotional give-and-take with an expressed emotion in one leading to an emotional response in the other.*

e.g., "So, Tommy was such a big boy, though, that he made his mother proud, and said, "Okay, I'll be really good mom I promise." And his mother was so happy with him that she said, "Okay, we'll go to the toy shop and we'll be able to pick up a toy that you might like as a reward for being so good." (emotional give-and-take)

C. Jane and Bob's Camping Trip

Jane	**tent**	**campfire**
Bob	**wind**	**shadow**
bags	**collapse**	**sounds**
hurry	**upset**	**hug**

In this attachment story, there are several opportunities for secure base content to appear as Jane and Bob encounter various difficulties and have to jointly negotiate their way through them. Many of the stories begin with differing degrees of enthusiasm for this camping trip, usually with Jane deciding she will go along because of Bob's interest in the trip. This is scored as secure base content because of the sensitivity to the other's psychological state/needs and because it involves a give-and-take between the two partners. As the story continues there are additional difficulties in which one partner becomes upset, i.e., the tent collapses, the weather turns bad, and there are strange sounds at night. Each of these difficulties is an opportunity to score secure base content, i.e., sensitivity to the other's psychological state, and recognizing the need to negotiate a solution that addresses the other's needs, as well as one's own. An important component of the secure base content in these exchanges is an effort by one partner to look on the bright side of the situation, recasting the experience in a positive light and diffusing the negative affect. Bringing the story to a positive conclusion in spite of all the difficulties, with Bob and Jane reaffirming their affection for one another is also a hallmark of the secure base script in this story.

Examples of Secure Base Content from Jane and Bob's Camping Trip

1 *the secure base helping to select and implement strategies for getting things back to normaland defusing the emotional distress, when that is possible, or avoiding distress altogether by*

facilitating transitions to other activities (for a baby or child) and providing explanatory frameworks to help understand the situation (for young child)

e.g., "And now Jane is like, "Bob, come on. It's time for the hotel, we gotta get out of here." And he explains to her, "You know, we can reset this up. If you really want to go to a hotel we can, but we really wanted to get away from just all the people and the commotion, and the confusion." And she says, "Well, all right. If you really feel we can recover this and make it okay." (secure base offers strategy to make everything work out)

2 *the secure base reconfiguring the person's representation to focus on more positive aspects,thereby diffusing the negative emotion. This often involves pointing out the "bright" side of a situation.*

e.g., "After they got the tent set up (after it had collapsed), they worked together to get it set up, and Jane was really enjoying herself. She told Bob that it was more that they were together than where they actually took their vacation" (Jane focuses on positive aspect of experience, in part because she knows that Bob is concerned about how things went badly early on)

e.g., "And the wind started to howl like those coyotes and those wolves, and the tent started flapping around. It flapped so hard that it collapsed right on top of Jane and Bob. And Jane was so upset that their anniversary trip was ruined. But Bob looked at her, gave her a big hug and said, "Don't worry honey, this will be an anniversary to remember." (Bob recasts experience into positive terms)

e.g., "Actually they were telling ghost stories and Jane happened to see a shadow and hear sounds which Bob didn't hear. But she started to panic. But Bob hugged her and said, "It's okay. There's nothing, it's your imagination. Don't let it run away with you. And she said, "You know, you're right." (Bob provides interpretation that diffuses negative affect)

3 *an interpersonal focus, that is, a sensitivity to and awareness of the other person's psychological/emotional state. The content of secure base narratives focuses on the interaction between the two individuals rather than simply describing the sequence of events in the story. The secure base responds to requests, cues from child/partner, modifying their own behavior as a consequence. There is give-and-take, with each partner making their own unique contribution to thesituation, activity, but working together "as a team." There is also emotional give-and-take with anexpressed emotion in one leading to an emotional response in the other.*

e.g., "And of course now (after telling scary campfire stories), every little twig that is out there starts to drive her crazy, cause of course now, it's this monster or that monster coming through. He reassures her that it's a fox or whatever, although in his mind, he's thinking, well it could be a bear, but you don't tell her that." (sensitivity to other's psychological state)

e.g., "The sounds of the cricket and the wind in the leaves were all very romantic, and Jane agreed that this was the perfect vacation. Bob thanked Jane for agreeing to come, and Jane thanked Bob for showing her that camping could be a good vacation as long as they were together. The night ended with a big hug and they went into their tent. (emotional give-and-take, a team)

D. The Accident

Sue	**wait**	**home**
road	**Mike**	**dinner**
accident	**tears**	**bed**
hospital	**doctor**	**hug**

In this attachment story, the crisis situation involves an accident and a trip to the hospital. Secure base content is scored when there is some substance to the reunion, with the partner expressing concern about the well-being of the injured party, and trying to make them feel better about what has happened. As Mike and Sue go home there is an additional opportunity to score secure base content vis-à-vis the partner's efforts at getting things back to normal. Thinking of ways to make the injured person comfortable, helping them settle into bed, etc. would all be scored positively. Stories that follow a secure base script provide many more details about the partner's efforts, in effect emphasizing the importance of helping to get things back to normal.

An additional feature of "Accident" stories that follow a secure base script is an emphasis on how this experience reflects upon the personal relationship between the two characters. It is less a story about an accident, and more a story about an experience that brings the two closer together, reminding them about how important they are to one another.

<u>Examples of Secure Base Content from The Accident</u>

- *the secure base helping to select and implement strategies for getting things back to normaland defusing the emotional distress, when that is possible, or avoiding distress altogether by*

facilitating transitions to other activities (for a baby or child) and providing explanatory frameworks to help understand the situation (for young child)

e.g., She was relaxing and resting, still in quite a bit of pain. But around dinner time, Mike gave her her medication. She ate dinner, was feeling a little better after that. But Mike carried her up the stairs to bed, laid her down, propped her up with some pillows, made her nice and comfortable, and gave her a big hug …. (secure base implements series of steps to make Sue feel better, helping to get things back to normal)

e.g., "When Mike arrived, Sue had tears in her eyes because she was very shaken by the accident. The doctor said "There's nothing to be worried about. Everything will be okay. Sue will just need to have some rest and relaxation for the next few days." So Mike went over to his wife, gave her a really big hug, and said, "Why don't we go home honey?" (secure base comforts Sue, recognizing she needs the comforting, and then initiates the next step to getting things back to normal, going home)

- *the secure base reconfiguring the person's representation to focus on more positive aspects,thereby diffusing the negative emotion. This often involves pointing out the "bright" side of a situation.*

e.g., "Sue and Mike looked at the unprepared dinner on the counter and it reminded them how precious life is, and that things can take a turn immediately, without warning. With this on their mind they went to bed early and thought of how fortunate they were that everything turned out okay. They fell asleep and because they realized their lives were so full they never even thought about dinner. (accident experience is recast in relationship terms)

e.g., And on the way home, Sue remembered that all the food for dinner was in her car that was towed away to the repair shop. Seeing as they had nothing in the house to eat, they both made a big bag of popcorn, and they had a can of Kool-Aid that was left over in the refrigerator. Afterwards

they went to bed and Sue said, “I’m so sorry. I planned this really big dinner for you.” And Mike just gave her a really big hug, and said, “The best kind of gift I have is you, home safe with me.” (dinner disaster is recast in positive relationship terms)

- *an interpersonal focus, that is, a sensitivity to and awareness of the other person’s psychological/emotional state. The content of secure base narratives focuses on the interaction between the two individuals rather than simply describing the sequence of events in the story. The secure base responds to requests, cues from child/partner, modifying their own behavior as a consequence. There is give-and-take, with each partner making their own unique contribution to thesituation, activity, but working together “as a team.” There is also emotional give-and-take with anexpressed emotion in one leading to an emotional response in the other.*

e.g., “Sue was a little groggy right now, and still very upset and shaken from the accident. As soon as she saw Mike she went into tears. “Oh, I can’t believe I did this. This is so bad. I feel terrible. I didn’t realize how tired I was (in this story, Sue nodded at the wheel).” Mike said, We’re just lucky that you’re okay, and that the gentleman in the truck is fine.” (emotional give-and-take, Sue breaks down, now that her secure base is here, and Mike reassures her that everyone is fine)

IV. Neutral Stories – Prototypic Script Rankings

Two neutral prompt word outlines were also developed to guide story productions about non-attachment scenarios, one involved a child and her friend (Trip to Park), the other an adult and her friend (An Afternoon Shopping). For each story there was an implied script that guided the rankings of story versions produced from these outlines. For "Trip to the Park" it was a standard, two little girls go the park and play script. The temporal/behavioral sequencing of the script, as implied by the prompt word outline is as follows: two little girls ride to the park, play on the swings, in the sandbox, run around, become tired, sit down, read comics and have a coke, and then go home. For "An Afternoon Shopping" it was the standard "mall" script. The temporal/behavioral sequencing of the script is as follows: two friends drive to the mall, browse among the stores, buy a small gift, decide they are hungry, sit down to eat and talk, and then go home.

High scoring stories were those that followed each script without deviations or unusual content, focusing only on filling in the details as appropriate to the particular script. Somewhat lower scored stories followed the implied script, but with increasingly less detail, i.e., a more or less abbreviated version of the script, a "bare bones" rendition. Stories scored even lower were those that deviated from the script. In some cases it was just some unusual/less typical content, in other cases there was a redirection of the script (e.g., two little girls go to the park and pretend they are mommies, or two friends go to the mall to try on new clothes in celebration of a successful diet).

The following two pages present each prompt word outline of the two neutral stories. Sample stories that span the range from highly scripted to abbreviated scripts to those with unusual content and redirection of the script are available upon request. The neutral stories are part of the narrative battery in order to provide breadth in the story lines and prevent subjects from zeroing in on the intent

of the assessment. Scores on the “Park” or “Mall” scripts are not highly correlated with the secure base script scores and we do not recommend that these stories be scored.

E. Trip to Park

Susie	**swings**	**tired**
bike	**sandbox**	**bench**
park	**game**	**comics**
friend	**run**	**coke**

As indicated above the Trip to Park story line follows a standard script in which two girls ride their bikes to the park and play for a while until they become tired and sit down with some cokes and comics.

F. An Afternoon Shopping

Emily	**browse**	**hungry**
car	**buy**	**food**
mall	**money**	**talk**
friend	**gift**	**home**

As indicated above the Afternoon Shopping story line follows a standard script in which two friends drive to the mall, browse through the stores for a while, then buy a small gift, and sit down to eat and talk when they become tired, and then go home.

This completes the Attachment Script Assessment coding manual.

Appendix D: Attachment Story Completion Task Story Stems

Introduce each character and then go right in to story.

Warm Up Story
"Here's their table and what's this?" (show cake to subject and wait for subject to name it).

"What kind of cake? Yes, it's a birthday cake. Now listen carefully to the story.

The mommy has baked this beautiful birthday cake

and she says: "Come on grandma, come on Dad, come on Jane, let's have a birthday party."

"Show me what happens now."

Prompts
- No prompts

AT END OF STORY TAKE ALL BACK

Spilled Juice

"Ok I have a new story."
"Can you put the family around the dinner table so they're ready to eat?
Ok here's the story.
Our family is eating dinner and Bob (Jane) get up and reaches and spills his juice.

And Mom says "Bob (Jane) you spilled your juice!" (Reproachful tone)

"Show me what happens now."

Prompts
- If not spontaneous: "What do they do about the spilled juice?
- If 1 response: "Anything else?"
  - If ambiguous pronoun

"Who did" Hurt Knee (felt grass,

sponge for rock)

"Ok I have another story. You put our family there and get them ready for the next one while I put these away."

"Ok look what I've got. This is the park. Do you sometimes go to the park with your mom and dad? (pause)

Here is our family and they're out walking in the park, and at this park there is this high rock."

The child says “Look mommy and daddy. Watch me climb this high rock.” (Make child climb then fall off).
“Ouch! I’ve hurt my knee (crying voice).
Show me what happens now

Prompts
- If not mention knee: “What do they do about the hurt knee?”
- If 1 response: “Anything else?”
- If ambiguous pronoun “Who did”

Monster in the bedroom

“Look what happens now.
Mom says “It’s bedtime go up to your room and go to bed."
And the dad says “Go to bed now.”

The child says “Ok mommy and daddy and I’m going” (make figure walk to bed). The child gets in bed

And he says “Mommy! Daddy! There’s a monster in my room! (Alarmed voice)”

Show and tell me what happens now

Prompts
- If not mention spontaneously: “What do they do about the monster?”
- If 1 response: “Anything else?”
- If ambiguous pronoun “Who did”

Departure

“Let’s use grandmother this time.

Here we have their front lawn, and here we have their car, this is the family car.

And you know what? It looks like mommy and daddy are going on a trip.”

Mom says “Ok boys (girls) Your dad and I are going on a trip.
We are leaving on our trip now.”

Dad says “See you tomorrow. Grandma will stay with you” Why don’t you have them drive off this way?

Show me what happens now.
Prompts
- If not mention mom and dad leave: “What does Bob do while mom and dad are gone?

- If 1 response: “Anything else?”
- If ambiguous pronoun “Who did”

TURN CAR AROUND

Reunion
OK and you know what?

It’s the next day and grandma looks out of the window

and she goes “Look boys (girls), here come your mommy and daddy. They’re home from their trip.”

Show me what happens now.

Prompts
- If not mention reunion: “What do they do now that mom and dad are home?”
- If child asks for other props, give to them
- If 1 response: “Anything else?”
- If ambiguous pronoun “Who did”

This completes the Attachment Story Completion Task Story Stems.

Appendix E: Attachment Story Completion Task Manual and Coding Sheet

Attachment Story Completion Task(ASCT)
Coding Manual 6/26/16 – Used for coding

Description of the task

Using doll figures, the experimenter sets up five story stems: (1) Birthday (used as a warm-up task), (2) Spilled Juice, (3) Hurt Knee, (4) Monster, and (5) Separation/Reunion. After each story stem, the experimenter asks the child to "show and tell me what happens next." Children's responses are video-recorded.

The task of the coder is to interpret the child's verbal and behavioral (doll play) responses in terms of their underlying attachment representations—that is, their internal working model of themselves and their relationship with their attachment figures. Note that in the current system, only 3 stories are coded for attachment: Knee, Monster, and Separation.

1. Overview of Coding Procedure

a. Watch each story *at least 3 times*, taking **detailed notes** on the child's ACTIONS (including all doll play and child behavior) and all STATEMENTS (including the experimenter's prompts and the child's verbatim responses). Use the Transcription Instructions below.

** NOTE: If you can't understand what the child is saying/ doing, repeat the recording as many times as needed, and watch the recording from the other camera angle. Do not assume what the child said/ does!*

Transcription Instructions

In the large box on your coding sheet, give a detailed description of the child's actions and statements. Use *initials* to indicate who is speaking/ acting:

a. E = Experimenter (David)
b. P = Child Participant
c. C = Child doll
d. M = Mom
e. D = Dad
f. G = Grandma

Use the following tools to make your transcripts as clear as possible:

a. Write all ACTIONS in plain text, using initials to indicate who is doing what.

b. Write all STATEMENTS in quotes, using initials to indicate the speaker.** Include statements by the experimenter.

EXAMPLE

P moves M closer to C, so they are standing side by side.

M: "Let's go home, Jane."

E: "Mom says let's go home? Okay."

c. Use "P2" to indicate Prompt 2, if given. E: P2

d. Use a wavy underline to indicate statements you are unsure about. P: "They go home and clean it up."

e. Use "XXX" to indicate statements you can't hear or are uninterpretable even after several listens. P: "And then Jane goes outside and XXX."

***NOTE: If you have written dialogue and have no wavy line underneath it, that indicates full confidence in what you heard. If there's any doubt, put a wavy line under it.*

b. Once you have a detailed transcript, **fill in the Yes/No ("0/1") questions** on the coding sheet—these will help you hone in on key indicators of security and insecurity, as well asexperimenter prompts and errors. These questions include:

i. **Problem resolved**: Child successfully resolves central story issue
   1. *Knee:* something is done to help knee feel better
   2. *Monster:* something is done to make monster a non-threat or to make child feel safe
   3. *Separation/Reunion:* child and parents do something to reestablish connectionafter separation

ii. **Parent positively involved**: Do parents help to resolve story issue/make things better—i.e., provide HELP, PROTECTION, COMFORT, REASSURANCE or VALIDATION? Are parents generally portrayed as "bigger, stronger, wiser, kind"?

iii. **Avoidance present**: Are any indicators of avoidance present—i.e., child denies/ minimizes/ dismisses/ avoids discussing distress or story issue, ends story prematurely or refuses to complete story, resolves story in superficial way, or resolvesstory independently/ without help from parents?

iv. **Disorganization present**: Are any indicators of disorganization present—i.e., incoherence, themes of violence/ chaos/ death/ helplessness, addition of *unresolvedproblems*, parents threatening OR helpless, child freezing/stilling?

c. After watching a story, take a step back and ask yourself, "In general, **do things get better, stay the same, or get worse**? Ultimately, *do things end well* in this story?" In very broad terms:
   i. A *secure* representation involves things getting better and ultimately ending well due to the help of a caregiver.
   ii. An *avoidant* representation involves things staying the same, going unaddressed, or getting superficially better without meaningful help from a caregiver.
      iii. A *disorganized* representation involves things getting worse OR initially gettingbetter but ultimately ending badly, often with a caregiver unable to provide help.

d. Assign a **security score** on a scale of 1 to 5 for each story and provide a brief justificationfor your score. This justification is to remind yourself of your decision process for discussion in coding meetings. Your scores should be based on:
   a. your notes about the child's statements and behavior
   b. the "0/1" indicators on your coding sheet
   c. **the scoring descriptions defined in THIS MANUAL (pp. 5-12)**

Example justification: "4" – Knee is resolved w/ mom giving band-aid, but only after prompt 2; has proximity + pos parental involvement. Not a 5 due to lack of spontaneity.

NOTE: Occasionally, a video problem or experimenter error(s) will make a story uncodable (e.g., dolls are not visible from either camera OR the experimenter skips prompt that might influence a child's score). If you think a story might be uncodable, make a note on your coding sheet, put a post-it on the sheet, and bring this case to coding meeting to discuss. However, if at all possible,* ***assign a score using whatever information you have.* *It's better to err on the side of coding what you have (rather than having lots of missing data). We will make the determination about whether to include it in the meeting.*

e. Assign a **classification** for each story. Classifications can be Secure, Avoidant, or Disorganized. Classifications reflect the child's overarching STRATEGY for managingdistress in the story. They are based on:

1. your security scores; typically, a security score of 1 indicates disorganization, 2 indicates avoidance, and 3-5 indicate security.
   2. **the classification descriptions defined in THIS MANUAL (p. 13)**

f. After coding all stories for a child, fill out the front page of your coding sheet, taking noteof the child's overall quality of interaction with the experimenter (see next page). Then, calculate a **summary score** for each child by taking the MEAN of security scores across the 3 stories (range: 1 – 5).

g. Finally, assign an **overall classification** by taking the MODAL CLASSIFICATION(most frequently occurring) across the 3 stories. If there is no modal classification:

a. Consider whether there is a primary/ dominant strategy that the child uses to dealwith distress. Justify your assessment by referring to the classification descriptions.
b. If the child's scores on Knee and Monster are borderline (2-3) OR if no consistent picture emerges in the first 2 stories OR if 1 story is uncodable, *weightSeparation/Reunion most highly* in your determination.[1]
c. If the child strongly demonstrates multiple strategies with no clear dominantstrategy, consider assigning "Cannot Classify."
d. **Conference with your coding team to make decisions regarding hard-to-classify children.**

In addition, track the child's **overall quality of interaction** with the experimenter and overall demeanor you watch. Pay particular attention to these 3 elements:

- COLLABORATION – In general, does child **cooperate with the rules** of the storytask and engage constructively with experimenter to create a story?

  ➔ Collaboration is a hallmark of child security. If a child is *non-collaborative* or appears annoyed or exasperated with the experimenter's requests, it may reflect aversion to discussing attachment themes (avoidance). If a child is actively *hostile* or*controlling* toward the experimenter, it may indicate disorganization.

- SHYNESS – Does the child appear initially inhibited or quiet, *but nevertheless engage fully in the story task?* Shyness is part of children's temperament and shouldNOT influence your scoring of attachment. If a child is shy, note it on your coding sheet to make sure that a child's shyness does not bias your scoring. In particular, shyness should be distinguished from *fearfulness,* described below.

  - FEARFULNESS – Does child appear fearful (i.e., anxious, rigid, passive, or withdrawn) throughout, such that *fear interferes with his/her ability to complete the task/ create coherent stories?* If a child appears actively afraid of the experimenter or the task (e.g., by refusing to touch/ play with the dolls or offering only 1 or 2 words inresponse to a prompt), review the child's stories for other "red flags" and consider an overall classification of disorganized.

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[1] We decided to give most weight to Separation/Reunion for the following reasons: (1) it offers the most attachment content, because it is includes 2 parts and more prompts by the experimenter; (2) it maps on most closely to other procedures used to measure attachment in this age group (e.g., reunion procedures, preschool SSP); (3) other researchers have used this story by itself to assess children's attachment (e.g., Main et al., 1985); and (4) it occurs last, giving children ample time to warm up to the experimenter and become familiar with the task.

2. Security Scores

Following Cassidy (1988) and others (e.g., Verschueren & Marcoen, 1999), we will score individual stories on a scale from 1 to 5, with the most secure stories receiving a 5. Scale points are defined below for each story (based Main et al., 1985; Bretherton et al., 1990).

General notes:

<table>
<tr><td rowspan="2">insecure</td><td>1</td><td>Stories with <u>any</u> indicators of disorganization, however brief (e.g., 2-3 sec), receive an automatic score of 1, <u>regardless of other content</u>. Indicators of disorganization include:
a) CONTENT: themes of violence, chaos, death, helplessness, or bizarre elements, incoherence(i.e., lapses in logic, odd statements unrelated to story); and/or
b) BEHAVIOR: participant freezing/ stilling/ passivity/ dissociation, odd or repetitive bodymovements or doll play, may be controlling toward experimenter

*Be careful NOT to confuse with regular 4-year-old behavior! Only score disorganization (b) IF it is very overt OR if it occurs in combination with (a)</td></tr>
<tr><td>2</td><td>A 2 is characterized by:
• overly brief, casual, or stereotyped, with minimal detail,
IF ALSO accompanied by one or more of the following:
• no helpful parental involvement (may involve DECREASE in proximity to parent)
• child overly independent – child resolves problem on his/her own
• denial of problem or distress
• premature closure – problem is resolved superficially or by skipping over issue
• refusal to engage (e.g., silence/shrug, “I don’t know,” “nothing,” “next story,” “the end”)

*A “2” may ultimately resolve the story issue, but do so in an avoidant way (e.g., child resolves problem alone, resolution is casual/ dismissing, <u>sense that child wants to get story over with</u>)</td></tr>
<tr><td colspan="3">Scores of 3 and above MUST include:
• RESOLUTION OF PROBLEM: Things get better/ end well.
• COHERENCE: child’s response is logical, well communicated, not overly digressive nor overly brief</td></tr>
<tr><td rowspan="2">weak secure</td><td>3</td><td>A 3 involves:
1 simple story resolutions – little detail/elaboration, but ultimately story “gets the job done” of resolving problem/distress.
2 parents involved – parents must be involved in some way, even if minimal or instrumental, with other person providing ultimate help (e.g., parent drives child to doctor, calls police about monster); involvement is not high-quality (no emotional comfort or check-ins)
3 resolution without spontaneity – problem is <s>resolved, but only</s> after 2nd prompt;
OR spontaneous resolution after initial avoidance – child resolves problem after 1st prompt, but initially shows 1-2 characteristics of a “2” (e.g., decreasing proximity)</td></tr>
<tr><td>4</td><td>A 4 resolves the story problem with more elaboration 3; THAT IS, the story includes 1-2 of the characteristics of a 5 (see below).</td></tr>
<tr><td rowspan="2">secure</td><td>5</td><td>A 5 involves spontaneity – child resolves problem without requiring the 2nd prompt,
PLUS AT LEAST 2 OF THE FOLLOWING:
• positive parental involvement – <u>parents provide help</u>/ comfort/ protection
• proximity - child seeks parent to help resolve distress OR parent comes to child OR dolls are placed together (e.g., side by side, hugging, leaning in, facing each other); participant may also make hugging gesture him/herself
• emotional openness – child <u>openly expresses positive and negative affect</u> appropriate to the story, either explicitly or implicitly, OR <u>parents validate</u> child’s emotions

*Resolution & parental involvement must be CLEAR in order to get a “5.” If central aspects are ambiguous, consider a “4” instead.</td></tr>
</table>

HURT KNEE

1 Any of the following indicators of disorganization warrants an **automatic 1:**

CONTENT

- **Problem unresolved** OR **resolved but followed by negative events**
  Examples: Parent punishes child for getting hurt (NOT resolved)
  "They put on a band-aid and then they lock him up." (resolved + negative event)
- **Violence, chaos, helplessness** (anything that worsens child's fear)
  Examples: Rock falls on Dad repeatedly. (violence)
  Parents fall down and cry. (helplessness)
- **Incoherence**
  Example: "He goes—Alligator!."

BEHAVIOR

- **Freezing**/ stilling/ passivity/ dissociation
- **Odd or repetitive body movements** or doll play
  Examples: Participant flicks child doll back and forth repeatedly.

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2 A **2** is characterized by:

- **overly brief**, casual, stereotyped, or superficial, with minimal detail
  Examples: [After several prompts] "Um… Band-aid?" [E: Who puts on a band-aid?] "I don't know." (casual/ stereotyped)
  [Participant brushes off child's knee] "Wipe, wipe, all done." (brief/ superficial)
  **To warrant a "2," brevity must ALSO accompanied by at least one of the following:*

- **no helpful parental involvement –** parents not involved or not helpful
  Examples: "The parents stand there and don't do anything." (uninvolved)
  Mom says, "Let's go on the swings" without acknowledging knee or providing comfort (involved but unhelpful)

- **child overly independent** – child resolves hurt knee on his/her own
  Examples: "Bob gets a band-aid."
  "Jane cleans it up."

- **denial** – distress and/ or knee issue is denied or skipped over
  Example: "Jane goes and plays on the slide." [E: "What do they do about the knee?"]
  "Nothing. It's better."

- **premature closure/refusal to engage** – refusal even after several prompts, attempts to escape story context, or oppositional toward E.
  Example: Child repeatedly says "I don't know"/ shrugs for multiple prompts

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CUTOFF FOR SECURITY: Scores of **3 and above** MUST show:

- **coherence** – child's response is logical, well communicated, neither overly digressive nor overly brief (i.e., 1- to 2-word stories)
- **parental involvement** – parents involved in resolving knee, even if minimal.
- **resolution of problem** – participant must resolve problem of knee; *Includes:*
  - Giving/ applying band-aid – must involve 1 or more parents
    Example: "The mom puts a band-aid on it."
  - PROXIMITY
    Examples: Parents approach child to apply band-aid or give hug.
    Child goes to parents for help with knee.
    "Mom and Jane sit down for awhile."
  - COMFORT/ check-in
    Example: "The mommy gives it a kiss." (comfort)
    "The daddy says, 'Are you ok?' and Bob says 'Yes, I'm ok.'" (check in)
    "The mom says, 'It will be ok, just rest for a minute.'" (comfort)
    **NOTE: When distinguishing between comfort and minimizing, pay attention to TONE (soothing tone indicates comfort/ negative tone may indicate dismissal)*

Does NOT include: someone other than parents helping with knee (e.g., Superman, stranger, doctor—UNLESS parents are involved in taking child to doctor),
NOR any responses described under a "1" or a "2" above.

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3 A **3** involves:

- **resolution without spontaneity** – knee is resolved, but only after Prompt 2 (i.e., any of the resolutions listed above that occur AFTER experimenter says, "What do they do about the knee?") OR **spontaneous resolution after initial avoidance**
- **simple story resolutions** – little detail/elaboration/emotional openness, no proximity, but ultimately story "gets the job done" of addressing knee
  Example: [E: "What do they do about the knee?"] "They clean it."/ "The daddy helps."

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4 A **4** involves resolution with more elaboration 3; THAT IS, story includes 1-2 of the characteristics of a 5 (see below).
A 4 *may or may not* require Prompt 2.

---

5 A **5** includes **spontaneity** – child resolves knee without requiring Prompt 2
Example: Parents immediately apply band-aid
PLUS AT LEAST 2 OF THE FOLLOWING:

- **positive parental involvement** – especially rich/ elaborative help from parent
  Example: "The daddy comes over and helps her up, and then he carries Jane to the top of the rock."
- **proximity** – child seeks parent to help with knee OR parent comes to child to help OR dolls are moved close together *(see examples above)*
- **emotional openness** – parent validates child's experience/ distress OR child expresses feeling better after comfort
  Examples: "The daddy gives a hug and Bob feels better."
  "Then mom climbs the rock and says, 'You're right! This IS a high rock."

MONSTER

- Any of the following indicators of disorganization warrants an **automatic 1:**

CONTENT

- **Problem unresolved** OR **resolved but followed by negative events**

Examples: "Jane hides but the monster finds her." (NOT resolved)
"The dad kills the monster, but then they get captured." (resolved + negative event)

- **Violence, chaos, helplessness** (anything that worsens child's fear)

Examples: "The monster eats him." (violence)
Parents hide under the bed and leave child in danger. (helplessness)
"The Dad is the monster." (bizarre/ frightening)

- **Incoherence**

Example: "Eat… Fall down."

BEHAVIOR

- **Freezing**/ stilling/ passivity/ dissociation
- **Odd or repetitive body movements** or doll play

Examples: Participant looms over child doll and growls/ pretends to be monster.

- A **2** is characterized by:

- **overly brief**, casual, stereotyped, or superficial, with minimal detail

Examples: [After several prompts] Participant flips dad doll around the floor and says, "Blah, blah, they fight the monster, the end." (casual)
"It goes away." (superficial)
**To warrant a "2," brevity must ALSO accompanied by at least one of the following:*

- **no helpful parental involvement –** parents not involved or not helpful

Examples: No mention of parents AND no movement of parent dolls. (uninvolved)
Mom says, "Go back to sleep" without acknowledging monster or providing comfort (involved but unhelpful)

- **child overly independent** – child resolves monster problem on his/her own

Examples: "Jane fights the monster"
"Bob closes the door so he can't see any more shadows."

- **denial** – fear and/ or monster is denied or problem is skipped over

Example: "Bob goes to sleep because there's no monster."

- **premature closure/refusal to engage** – refusal even after several prompts, attempts to escape story context, or oppositional toward E.

Example: Child repeatedly says "I don't know"/ shrugs for multiple prompts

---

CUTOFF FOR SECURITY: Scores of **3 and above** MUST show:

1 **coherence** – child's response is logical, well communicated, neither overly digressive nor overly brief (i.e., 1- to 2-word stories)

2 **parental involvement** – parents involved in resolving monster, even if minimal.
Example: "The family fights the monster."

3 **resolution of problem** – participant must resolve problem of monster; *Includes:*

- Fighting/ defeating monster – must involve 1 or more parents
  Examples: Dad makes karate noises as he fights monster. "The mama convinces the monster to be good."
  - PROXIMITY/ protection
    Examples: Child runs out of room and goes to parents.
    Parents come to child's room and hide child under a blanket.
    "Jane goes and sleeps in her parents' room."
  - COMFORT/ reassurance
    Example: Dad says, "Don't worry. It's just bad dreams."
    **NOTE: When distinguishing between comfort and minimizing, pay attention to TONE (soothing tone indicates comfort/ negative tone may indicate dismissal)*

Does NOT include: child escaping alone, someone other than parents defeating monster (e.g., Batman), NOR any responses described under a "1" or a "2" above.

- A **3** involves:
  - **resolution without spontaneity** – monster is resolved, but only after Prompt 2 (i.e., any of the resolutions listed above that occur AFTER experimenter says, "What do they do about the monster?") OR **spontaneous resolution after initial avoidance**
  - **simple story resolutions** – little detail/elaboration/emotional openness, no proximity, but ultimately story "gets the job done" of defeating monster
    Example: [E: "What do they do about the monster?"] "They fight it." [E: "Anything else?"] "No."

- A **4** involves resolution with more elaboration 3; THAT IS, story includes 1-2 of the characteristics of a 5 (see below).
  A 4 *may or may not* require Prompt 2.

- A **5** includes **spontaneity** – child resolves monster without requiring Prompt 2
  Example: Parents immediately come to whisk Jane out of the room.
  PLUS AT LEAST 2 OF THE FOLLOWING:
  - **positive parental involvement** – especially rich/ elaborative help from parent
    Examples: "The Dad comes in and fights the monster—hi-ya! And then he tucks Bob in so he can go to sleep."
    Family moves to a new house with no more monsters.
  - **proximity** – child seeks parent to help with monster OR parent comes to child to help OR dolls are moved close together *(see examples above)*
  - **emotional openness**– child expresses fear directly to parent OR parent validates child's fear OR parent comforts child and child "feels better"
    Examples: No monster, but parents sleep in child's room "just in case."
    Dad looks for monster and says, "You're right, there IS a monster!"

SEPARATION/REUNION

This story has 2 parts—Separation and Reunion—each of which has its own experimenter Prompt 1 ("Show and tell me what happens next"). **The central focus of coding is what happens during the reunion, when the parents return**. However, the separation gives valuable information, so you should also **track what is going on during the separation**, as certain elements will influence your final score. Key separation elements are listed on this page, and scoring criteria for Reunion are on the following page.

**NOTE: On your coding sheet, Prompt 1 and Prompt 2 refer to experimenter prompts given during Reunion only. Prompts given during Separation do not affect scoring.*

SEPARATION

**If child shows "neutral" or "positive" coping assign a "1" to the "SEP_COPE question.*

Positive separation elements

- Especially ELABORATIVE/CONSTRUCTIVE coping
  Examples: "Bob and Grandma play with everything. They make cookies and milk and do all sorts of things."
  "Grandma says, 'Come on, Bob. Let's do some exercises! Stretch out!'"
- Active PROTEST of separation
  Examples: Jane repeatedly yells "Mommy! Daddy!" when parents leave.
  Bob tries repeatedly to get in the car with parents as they drive away.
  Jane "sneaks off to get Mom and Dad"
  Jane "cries and stamps her foot" as parents leave
- Open expression of SADNESS in response to separation
  Examples: "Jane is sad."
  "Bob says 'I'm sad,' and Grandma says, 'It's ok.'

Neutral separation elements

- BASIC COPING
  Examples: "Jane and Grandma go to sleep."
  "They just wait." "They play games."
  "Grandma takes Jane to the park." "Bob plays with his toys."

Negative separation elements – **subtract -1 from child's score if any are present:**

- NEGATIVE EVENT occurs during separation that is not resolved
  Examples: "Then a tornado comes and Bob is scared."
  "Jane hears a noise and can't sleep the whole night."
  "Bob and Grandma fight."
  "Grandma drives away and leaves him."
  ➔ *NOTE: If any overt indicators of DISORGANIZATION are present during separation, it overrides all other content, including reunion, and story receives an* ***automatic "1"***
- NO COPING (child & grandma do nothing)
  Examples: E: "What do Bob and Grandma do while Mom and Dad are gone?"
  P: "Nothing." / "I don't know."/ Shrugs/ "They stay."

REUNION

After noting positive, neutral, or negative elements of the separation, assess the REUNION. Add or subtract Separation points as needed in making your final score.

- Any of the following indicators of disorganization warrants an **automatic 1:**

  CONTENT
  - **Problem unresolved** OR **resolved but followed by negative events**
    Examples: Parents get in car crash and Jane stomps on the car. (NOT resolved) Family has positive reunion, but then Dad hits Bob. (resolved + negative event)
  - **Violence, chaos, helplessness, or bizarre elements**
    Examples: Parents explode and "there's blood everywhere." (violence/ chaos)
    Car runs over Grandma. (violence)
    Child begins to approach parents but "falls down and can't get up." (helplessness)
  - **Incoherence**
    Example: "But then Bob is a baby and he cries and cries."

  BEHAVIOR
  - **Freezing**/ stilling/ passivity/ dissociation
    Example: During reunion, participant freezes and stares blankly for a few seconds.
  - **Odd or repetitive body movements** or doll play
    Examples: Child approaches family for reunion, but then falls and gets hurt.
    Participant hits child's head against the car repeatedly.

- A **2** is characterized by:

  - **overly brief**, casual, or stereotyped, with minimal detail
    Example: "They just go home." [E: "Anything else?"] "No."
    **To warrant a "2," brevity must ALSO accompanied by one of the following:*

  - **no/minimal reintegration with family –** no greeting or physical contact; child does not seek proximity
    - No reintegration
      Examples: Child gets in car and drives away by himself.
      Mom and Dad go on another trip without child.
    - OR family engages in casual/ stereotyped tasks
      Examples: "They play games."
      "They eat dinner."

  - **refusal to engage/premature closure** – refusal even after several prompts, attempts to escape story context, or oppositional toward E.
    Examples: "I don't know."/ "Nothing."/ Child shrugs
    "The end." Child pushes toys toward E. "I want it to be the end!"

CUTOFF FOR SECURITY: Scores of **3 and above** MUST show:

1. **coherence** – child's response is logical, well communicated, neither overly digressive nor overly brief (i.e., 1- to 2-word stories)
2. **resolution of problem** – child must re-establish connection w/ family; *Includes:*
   - Verbal greeting/ acknowledgement of separation
     Examples: Child says "Hi. I missed you."
     Dad says, "Did you have fun with Grandma?"
   - Nonverbal greeting/ PROXIMITY
     Examples: Dad leans in and gives Bob a kiss.
     Participant moves parents closer to child doll so they're face-to-face.
     Participant gathers family together in his/her hands as if embracing.
     Child makes hugging gesture toward him/herself.
   - Special joint activity (especially if suggesting enthusiasm/ joy)
     Example: "They all go on a trip together."

   Does NOT include: child solo activities or activities only with Grandma
   NOR any behavior described under a "1" or a "2" above.

- A **3** involves:
  - **resolution without spontaneity** – child reintegrates w/ family, but only after 2nd prompt (i.e., any of the resolutions listed above that occur AFTER experimenter says, "What does Bob do now that Mom and Dad are home?") OR **spontaneous resolution after initial avoidance**
  - **simple story resolutions** – little detail/elaboration/emotional openness, no proximity, but ultimately story "gets the job done" of re-establishing w/ family
    Example: [E: "What does Jane do now that Mom and Dad are home?"] P: "They go home and eat cake."

- A **4** involves resolution with more elaboration 3; THAT IS, story includes 1-2 of the characteristics of a 5 (see below).
  A 4 *may or may not* require Prompt 2.

- A **5** includes **spontaneity** – child resolves problem without requiring Prompt 2
  Example: Parents immediately get out of car and hug Bob.
  PLUS AT LEAST 2 OF THE FOLLOWING:
  - **positive reintegration w/ family** – child reconnects with family, often with clear sense of "togetherness."
    Examples: "They all go to the park and have a picnic and the Mom gives Bob a kiss."
    "Daddy and Jane play together with Jane's favorite doll."
  - **proximity** – child GREETS parent/ seeks proximity OR parents greet/ come to child OR dolls moved close together OR child makes hugging gesture *(see examples above)*
  - **emotional openness** – child expresses sadness/ protest upon separation AND/OR joy upon reunion (can be explicit or implicit)
    Examples: "Jane is sad that Mom and Dad are gone." (explicit)
    "Mom says, 'We missed you, Jane!'" (explicit)
    "Bob says 'Yay!' and throws a thousand parties." (implicit)

---

3. Classification Descriptions

SECURE/CONFIDENT (B)

1. **Structure:** coherent, fluent presentation, collaborative w/ experimenter, emotional openness, completes task with minimal resistance or stress
2. **Content:** benign story resolutions, positive and open interactions with a responsive caregiver, distress is acknowledged and resolved; characters show mutual support and enjoyment; reintegration into the family
    8. **Child:** confident, valuable, worthy, capable of both acknowledging fear/distress and acting bravely, usually with the support of caregiver(s)
    9. **Parent:** available, reliable, valued, helpful, provides safety/protection and comfort/reassurance; may sometimes be portrayed as a superhero
    10. **Outcome:** Generally positive AFTER distress has been recognized
3. **Play:** elaborated; child and one or both parent dolls are involved; sense of "togetherness" with placement and movement of figures (e.g., dolls placed in prox. or contact with one another, child doll not left out/left behind, except in Separation)
4. **Overall strategy:** use parents as secure base to help regulate distress

AVOIDANT/CASUAL (A)

5. **Structure:** brief, stereotyped, with experimenter doing most of the work, sometimes in Q&A format; little detail or elaboration; may be oppositional w/ experimenter
6. **Content:** distress/ need for help not acknowledged; problems are denied, ignored, or resolved in a stereotyped manner ("premature closure"), usually by the child alone
    8. **Child:** isolated, rejected, or overly independent
    9. **Parent:** rejecting/ neglecting, unavailable/ unhelpful; minimally involved in story resolution; importance of parents and/or relationship denied or dismissed
    10. **Outcome:** Can be positive or negative, but distress is minimized or denied
7. **Play:** unelaborated, casual, may avoid using parent dolls or place dolls far apart OR refusal to engage altogether
8. **Overall strategy**: deactivating/ minimizing (downplay distress)

DISORGANIZED/FRIGHTENED (D)

9. **Structure:** incoherent, contradictory, fearful/ dysregulated; may also be hostile/ controlling toward experimenter
10. **Content:** bizarre, violent, lapses in logic, problems unresolved or worsened; themes of chaos/ helplessness; other injuries/ disasters occur
    8. **Child:** fearful/frightened, self-blaming, helpless
    9. **Parent:** frightened/helpless or frightening/abusive
    10. **Outcome:** Generally negative
11. **Play:** negative/ violent interaction between dolls, throwing or attempting to harm/ destroy dolls OR stilling or bizarre movements/behavior unrelated to doll story
12. **Overall strategy:** fearful (e.g., hiding), aggressive, or bizarre/ inconsistent; distress is overwhelming or unmanageable

ATTACHMENT STORY COMPLETION TASK (ASCT)
Coding Sheet

ID: _____ Date of session _____

Coder and date coded: _____ Child Gender: M F

Visual description of child, including clothing:

	No	Yes
Any video problems or difficulty seeing child and/ or dolls?	0	1

Notes (e.g., what video to use for best view & sound):

OVERALL ASSESSMENT: Was child collaborative w/ experimenter? 0 1

GLOBAL SECURITY SCORE	**GLOBAL CLASSIFICATION**
Knee: _____	Knee: _____
Monster: _____	Monster: _____
Separation: _____	Separation: _____
Mean score = _____	*Modal class. =* _____
	**If no modal classification, explain decision below:*

Key for transcribing:

- E = experimenter (David)
- P = Child participant
- C = Child doll
- M = Mom
- D = Dad
- G = Grandma

- All ACTIONS in plain text.	P moves M closer to C, so they are side by side.
- All STATEMENTS in quotes, indicating speaker.	M: "Let's go home, Jane."
➔ "E" = Experimenter's statements	E: "Mom says let's go home? Okay."
- "P2" indicates Prompt 2, if given.	E: "What do they do about the hurt knee?" (P2)
- Wavy underline indicates uncertain text.	P: "They go home and clean it up."
- "XXX" indicates missed text.	P: "And then Jane goes outside and XXX."

1. HURT KNEE	Start time:		*Scoring: 1 - 5*
KNEE_PROMPT1	Did E give 1st prompt ("Show & tell me what happens next")?	0	1
KNEE_PROMPT2	Did E give 2nd prompt ("What did they do about the knee")?	0	1
KNEE_ERROR	Did experimenter make an error? *Describe:*	0	1

Child's statements and behaviors (be as detailed as possible):

KNEE_RESOLUTION	Was problem resolved?	0	1
→ KNEE_SPONT	Was resolution spontaneous (i.e., did not require 2nd prompt)?	0	1
KNEE_PARENT	Was parent positively involved?	0	1
KNEE_AVOID	Problem avoided/ premature closure/ refusal OR Child resolves problem independently	0	1
KNEE_DISORG	Any overt instances of disorganization?	0	1 → automatic 1

KNEE_SECURITY:

1 2 3 4 5 999

Score description/ rationale:

KNEE_CLASSIFICATION:

Secure = 3
Avoidant = 2
Disorganized = 1
Uncodable = 999

2. MONSTER	Start time:	*Scoring: 1 - 5*	
MON_PROMPT1	Did E give 1st prompt ("Show & tell me what happens next")?	0	1
MON_PROMPT2	Did E give 2nd prompt ("What did they do about the monster")?	0	1
MON_ERROR	Did experimenter make an error? *Describe:*	0	1

Child's statements and behaviors (be as detailed as possible):

MON_RESOLUTION	Was problem resolved?	0	1
→ MON_SPONT	Was resolution spontaneous (i.e., did not require 2nd prompt)?	0	1
MON_PARENT	Was parent positively involved?	0	1
MON_AVOID	Problem avoided/ premature closure/ refusal OR Child resolves problem independently	0	1
MON_DISORG	Any overt instances of disorganization?	0	1 → automatic 1

MON_SECURITY:

1 2 3 4 5 999

Score description/ rationale:

MON_CLASSIFICATION:

Secure	**= 3**
Avoidant	**= 2**
Disorganized	**= 1**
Uncodable	= 999

3. SEPARATION/ REUNION	Start time:		*Scoring: 1 - 5*
SEP_PROMPT1	Did E give 1st prompt ("Show & tell me what happens next")?	0	1
SEP_PROMPT2	Did E give 2nd prompt ("What does Bob/Jane do now that Mom and Dad are home")?	0	1
SEP_ERROR	Did experimenter make an error? *Describe:*	0	1

Child's statements and behaviors (be as detailed as possible):

SEP_COPE	Did child cope constructively w/ separation?	0	1
SEP_RESOLUTION	Is child reintegrated into family at reunion?	0	1
→ SEP_SPONT	Was resolution spontaneous (i.e., did not require 2nd prompt)?	0	1
SEP_EMO	Does child express sadness/ protest during separation AND/OR express joy upon reunion?	0	1
SEP_AVOID	Problem avoided/ premature closure/ refusal OR casual/ superficial reintegration	0	1
SEP_DISORG	Any overt instances of disorganization?	0	1 → automatic 1

SEP_SECURITY:

1 2 3 4 5 999

Score description/ rationale:

SEP_CLASSIFICATION:

Secure = 3
Avoidant = 2
Disorganized = 1
Uncodable = 999

Appendix F: Caregiving Story Completion Task Story Stems

Fear: Big Dog – Card Notes
In this story, there's a sidewalk. This is the sidewalk.
This is Gabbi/Noah, and (grab brunette) this is her friend.
Gabbi/Noah and her friend are walking home together from school, on this sidewalk.
They are talking and laughing.
Gabbi/Noah says: "I really like walking home with you!"
Fr: "Me too!"
Gabi: "Hanging out with you is fun!"
Fr: "Yeah!"

(add dog) Then,// they see a great big dog in the distance.
Gabbi/Noah ***likes*** dogs a lot and always feels comfortable around them/// but her friend does ***not*** like dogs.
Suddenly, the great big dog runs up to them and starts barking.//"Ruff, ruff!"
It is a really big and really loud dog. PAUSE

Gabbi/Noah's friend says (fearful voice), "Ooooooohhhhhhhhh noooooo! This dog is really big and loud! AAAhhhh! AAAhhhh!" PAUSE
Handing dolls to child: "Show and tell me what happens next."

1.Does Gabbi/Noah do anything (else)?
2.Does Gabbi/Noah say anything (else)?

Physical Pain: Swimming Pool –Card Notes

This story takes place in a swimming pool. This is the pool. (Show cloth)
This is Gabbi/Noah.
And (grab black hair) this is her friend.
Gabbi/Noah and her friend are playing together in the swimming pool.

Gabi says: "Splash splash….this is so fun."
Fr: Ooh, yes, this is fun! Splash! (jumping dolls up and down)

Then they decide to get out///
and are walking barefoot to get their towels./

The friend says (painful voice, less sad) "Owwwch I stepped on a rock! // That really hurts! Owwwww!" 2 crying sobs

Handing dolls to child: "Show and tell me what happens next."

I. Does Gabbi/Noah do anything (else)?

II. Does Gabbi/Noah say anything (else)?

Fear: Sleepover – Card Notes

Here's our next story.
This story happens in Gabbi/Noah's house; (get cloth) this is a rug in her living room and here's their TV. (a cloth square).
This is Gabbi/Noah. (grab blonde) This is her friend.

Move to rug -- Tonight is her friend's **first time** ever having a sleepover at Gabbi/Noah's house. Gabbi/Noah and her friend are watching a movie on TV. and it is Gabbi/Noah's **favorite** movie Gabbi/Noah says "I really like this movie."
Fr: "Me too!"
Gabi: "Oh, this part of the movie is really good!"
Fr: "Yeah!"

After a while, her friend sees something in the movie, and says
(scared voice, cry) "There are some mean people in this movie! Oh no!!! /// I don't like this movie! /// Aghhh!!!

Move rug to child: "Show and tell me what happens next."

1.Does Gabbi/Noah do anything (else)?
2. Does Gabbi/Noah say anything (else)?

Sadness: Lost Toy – Card Version

This next story takes place in a park.
This is the park (a green square cloth).
This is Gabbi/Noah, and (grab redhead) this is her friend.
Gabbi/Noah and her friend are swinging together on the park swings.
(alternate swinging)

Gabbi/Noah says: "Wheee!! This is fun."
Fr:"Yeah, I like to go high!"
Gabi: "Me too! Swinging, swinging!"
Her friend says, (excited voice)."I have my *very special teddy bear* in my backpack.// I'm going to get him and let him swing on the swing with me!"

She/he gets off the swing and runs over to her backpack // to get her teddy bear. PAUSE

But when she/he opens her backpack: " (Gasp) (Sad voice) OH NO! My teddy bear is gone! (sad voice).
Awwww... //
He must have fallen out of my backpack!" (2 Crying sounds)

Pushing cloth to child: "Show and tell me what happens next."

a. Does Gabbi/Noah do anything (else)?
b. Does Gabbi/Noah say anything (else)?

Appendix G: Caregiving Story Coding Manual and Coding Sheet

Caregiving Story Completion Task (CSCT)
Coding Manual

Description of the task

Using doll figures, the experimenter sets up four story stems: (1) Big Dog, (2) Swimming Pool, (3) Sleepover, and (4) Lost Toy. In each story stem, there is a main character, Gabby (G) or Noah (N), and a friend (F). After each story stem, the experimenter asks the child to "show and tell me what happens next." Children's responses are video-recorded.

The task of the coder is to interpret the child's verbal and behavioral (doll play) responses in terms of their underlying caregiving script representations—that is, their representation of caregiving events in which (1) a distressing obstacle is encountered, (2) an available caregiver recognizes the distress; (3) this caregiver approaches and comforts the distressed other; (4) the provided comfort assists the distressed other in calming down; (5) the problem is resolved; and (6) Both the caregiver and the previously distressed other return to normalcy, either by engaging in an activity (e.g. "Ok lets go play basketball) or being in an explicitly acknowledged emotional state in which they can now face the world (e.g. "I feel calm now).

Overview of Coding Procedure

- Watch each story one at a time. Take notes on the child's statements and actions. Whenwatching, watch all the way through the child's story and the first two prompts ("Does G/N do anything (else)?" and "Does G/N say anything (else)?")
    - *If you can't understand what the child is saying/ doing, repeat the recording as many times as needed, and watch the recording from other camera angle. Do not guess or assume what the child said/ does! If you still can't understand what is happening or whatwas said, show a coding supervisor.*

Transcription Instructions: In the large box on your coding sheet, give a detailed description of the child's actions and statements. Use *initials* to indicate who is speaking/ acting:

- E = Experimenter (David)
- C = Child Participant
- N = Noah
- G = Gabby
- F = Friend
- CG = Caregiver

Use the following tools to make your transcripts as clear as possible:

	EXAMPLE
f. Write all ACTIONS in plain text, using initials to indicate who is doing what.	N moves in front of F so he's blocking the TV.
g. Write all STATEMENTS in quotes, using initials to indicate the speaker. Include statements by the experimenter.	N: "I'll find your teddy bear." E: "Noah says he'll find his teddy bear? Okay."
h. Use "P" to indicate prompts at the end	P - E: "Does Noah do anything?" (P2)
i. Use a wavy underline to indicate statements you are unsure about.	C: "They go home and find it at home."
j. Use "XXX" to indicate statements you can't hear or are uninterpretable even after several listens.	C: "And then Jane goes outside and XXX."

If you have written dialogue and have no wavy line underneath it, that indicates full confidence in what you heard. If there's any doubt, put a wavy line under it.

Once you have a detailed transcript, **fill in the No/Yes ("0/1") questions** on the coding sheet—these will help you hone in on a caregiving score, as well as experimenter prompts and errors.

NOTE: Occasionally, a video problem or experimenter error(s) will make a story uncodable (e.g., the dolls are not visible from either camera OR the experimenter skips a prompt that might influence a child's score). If you think a story might be uncodable, make a note on your coding sheet, put a post-it on the sheet, and bring this case to coding meeting to discuss. However, if at all possible, ***assign a score using whatever information you have.*** *It's better to err on the side of coding what you have (rather than having lots of missing data. On the other hand, you do not want to be just guessing about things that you can't hear or see. So the point here is to walk the line between needless missing data and incorrect data.). We will make the determination about whether to include it in the meeting.*

- Assign a **caregiving script** score from 1 to 4 **for each story** and provide a brief justification for your score. Your scores should be based on:
- your notes about the child's statements and behavior
- the "0/1" indicators on your coding sheet
- **the scoring descriptions for each story defined in THIS MANUAL**

*** AFTER YOU HAVE GIVEN YOUR CAREGIVING SCRIPT SCORE, THEN MOVE ON TO #3. **DO NOT WATCH BEYOND THE FIRST TWO QUESTIONS***

Caregiving Script Scores

This measure was newly developed for this study. As such, the scoring system is currently a work in progress. The current scoring system was initially inspired by Waters & Waters (2006) secure base script scoring system and further developed by watching pilot videos. The system is designed to capture a wide variety of script representations, behaviors, and outcomes of the stories.

General notes:

- *If Gabby/Noah provide some care, **SCORE MUST 3 OR 4**.*
- *Stories with any indicator(s) of chaos/helplessness or hostility/violence that is not in theservice of a resolution receive an **automatic score of 1**.*
  - *NOTE: If a full caregiving episode is observed before prompts AND THEN a hostile event is seen after the prompts, focus on the caregiving episode BUT SUBTRACT ONE FROM WHATEVER SCORE WOULD BE ASSIGNED TO THE CAREGIVING EPISODE. THAT IS A 4 GOES TO A 3 AND A 3 GOES TO A 2.*
- *Pay attention to how the story ends. Are things better, staying the same, or worse? If itgets better, is it because of the G/N?*
- *If the child says "They", it implies that G/N are part of the action and providing care*
- *Care can be provided by people other than G/N, such as mom/dad/grandma/police officer*

Care is not provided	**1**	**These are stories where things end worse off than they started:** • Child (participant) introduces aggressive content. This can be hostility between any of the characters of the story OR aggression in relation to objects (e.g. N smashes TV) • If the distress is resolved but an unresolved negative event follows it, the negative event trumps the resolution.
	2	**These are stories where the distress is not dealt with by G/N. There is a moving away from seeking or giving care. Examples include such things as:** • Child (Participant) is disengaged from the stories ("I don't want to do this") • OR Child (participant) claims to be uncertain about the story (e.g. "I don't know what happens next") • OR Friend resolves the distress by him/herself[2] and Gabby/Noah is uninvolved in the resolution • OR Story is focused on Gabby/Noah • OR event-focused stories where the distress is not acknowledged but no new distress is created
Care is provided	**3**	**Gabby/Noah provides care but G/N & F do not return to normalcy** **1** Specific details about returning to normalcy can be found within specific descriptions for each story below **2** OR G/N encourages/assists/scaffolds/models friend in addressing the distress,but is not explicit providing care
	4	Gabby/Noah notices distress and provides clear assistance or care. **1** The care provided **must** clearly be effective in relieving the friends. This canbe signaled by returning to play (i.e. "G/N finds it and then they get back on the swing) OR by a clear signal that everything is all better and distress has been resolved (e.g. "I'm not scared anymore.")

[2] Children resolving their own distress is a perfectly reasonable thing to do. However, the logic of the stories is set up in such a way that the child is distressed and another actor is not.

Examples of Caregiving and Return to Normalcy
BIG DOG

Care is not provided

4. Any of the following indicators warrants an **automatic 1:**

a. **Aggression (verbal or with dolls)** (e.g. N: "You don't likedogs so we're not friends anymore", N doll hits F doll)

- *NOTE: If a full caregiving episode is observed beforeprompts AND THEN a hostile event is seen after the prompts, focus on the caregiving episode and score a3 or 4*

b. **Big Dog problem is unresolved** (e.g. "They don't do anything.")

c. **Addition unresolved problems** (e.g. C: "They walk past the dog…but then a car hits them.")

5. A **2** is characterized by:

a. **Resolution without G/N** (e.g. "F likes dogs now so its ok.", "F just goes home.")

b. **G/N centric stories** ("G/N loves dogs and now its her dog.","Dogs are like horses and N likes horses.")

c. **Child disengagement (**e.g. "C: I don't know what happens next.", "I don't want to do this game anymore."

6. A **3** involves**: Care provision without resolution**

a. **G/N positive reframing situation (scaffold/encourage/assist/models)**
Examples "G/N: Touchthe dog, F does."
"G/N: This is a nice dog."

b. **Direct care that is unresolved**- (e.g. "G/N says don't worry.")

Care is provided

7. A **4** is characterized by **care provision followed by returning to normalcy**. **THERE MUST BE A CLEAR RESOLUTION**. Fully resolving distress is not enough. There is a distinction betweenfully resolving distress and returning to normalcy. It does not necessarily mean that they have to return to playing. It is more about the sense that all is well.

Care provision with clear resolution (Resolution noted in Italics)

a. THESE ARE EXAMPLES WITH CLEAR RESOLUTION "N/G: I'll protect you, *F: Thank you!"*
"N/G shows her that it's a nice dog and *then they play withthe dog.")*.

Swimming Pool

Care is not provided	**1**	Any of the following indicators warrants an **automatic 1:** • **Aggression (verbal or with dolls)** (e.g. "N dunks her under the water", N doll hits F doll) o *NOTE: If a full caregiving episode is observed before prompts AND THEN a hostile event is seen after the prompts, focus on the caregiving episode and score a 3 or 4* • **Unresolved problem of hurt knee** (e.g. "They don't do anything.") • **Additional unresolved problems** (e.g. "They go home but now they can't find their towels")
	2	A **2** is characterized by: • **Resolution without G/N** (e.g. "F puts a bandaid on") • **G/N centric stories** ("G/N goes back in the pool and splashes more.") • **Child disengagement (**e.g. "C: I don't know what is next.", "I don't want to do this game anymore."
Care is provided	**3**	A **3** involves: **Care provision without resolution.** • **Direct care without clear resolution** (e.g. "G/N says don't worry, I'll help") • **G/N positive reframing situation (scaffold/encourage/assist/models)** "G/N says don't worry it will be ok soon."
	4	A **4** is characterized by **care provision followed by returning to normalcy**. **THERE MUST BE A CLEAR RESOLUTION**. Fully resolving distress is not enough. There is a distinction between fully resolving distress and returning to normalcy. It does not necessarily mean that they have to return to playing. It is more about the sense that all is well. **Care provision with clear resolution** • THESE ARE EXAMPLES WITH CLEAR RESOLUTION (Resolution noted in Italics) "N/G says I'll help and *then the boo-boo didn't hurt anymore*." "N/G carries her to the towels and *then they get back in the pool."*

Sleepover

Care is not provided

1) Any of the following indicators warrants an **automatic 1:**

- **Aggression (verbal or with dolls)** (e.g. "G/N says stop being a baby and watch the movie", G/N doll hits F doll, G/N/F knocks over the TV)
    - *NOTE: If a full caregiving episode is observed before prompts AND THEN a hostile event is seen after the prompts, focus on the caregiving episode and score a 3 or 4*
- **Unresolved problem of movie** (e.g. "They don't do anything.")
- **Additional unresolved problems** (e.g. "They change it to a new movie but now there's more mean people and they're scared!")

---

2) A **2** is characterized by:

- **Resolution without G/N** (e.g. "F changes it to a different movie", "They go to sleep.")
- **G/N centric stories** ("G/N really loves this movie so they keep watching.")
- **Child disengagement (**e.g. "C: I don't know what happens next.", "I don't want to do this game anymore."

---

3) A **3** involves: **Care provision without resolution.**

- **Direct care without clear resolution** (e.g. "G/N says don't worry, I'll change it")
- **G/N positive reframing situation (scaffold/encourage/assist/models)** (e.g. "G/N says don't worry this part will be done soon."

Care is provided

4) A **4** is characterized by **care provision followed by returning to normalcy**. **THERE MUST BE A CLEAR RESOLUTION**.

Fully resolving distress is not enough. There is a distinction between fully resolving distress and returning to normalcy. It does not necessarily mean that they have to return to playing. It is more about the sense that all is well.

Care provision with clear resolution

- THESE ARE EXAMPLES WITH CLEAR RESOLUTION (Resolution noted in Italics)
- "N/G says lets watch a new movie and *this movie is way better*"
- "G/N go play a different game instead and *they have a lot of fun*"

Lost Toy

Care is not provided

- Any of the following indicators warrants an **automatic 1:**
  - **Aggression (verbal or with dolls)** (e.g. "G/N stole the bear","G/N finds the bear and says its mine now", G/N doll hits F doll)
  - **Unresolved problem of lost toy** (e.g. "They don't do anything.")
  - **Addition of unresolved problems** (e.g. "They find the bear and go swinging. But then they fall off the swings and get hurt")

- A **2** is characterized by:
  - **Resolution without G/N** (e.g. "F finds the bear")
  - **G/N centric stories** ("G/N keeps swinging because she likes to go high.")
  - **Child disengagement (**e.g. "C: I don't know what happens next.", "I don't want to do this game anymore."

- A **3** involves: **Care provision without resolution.**
  - **Direct care without clear resolution** (e.g. "G/N finds the bear")
  - **G/N positive reframing situation (scaffold/encourage/assist/models)** (e.g. "G/N says you should look over there and then they find it.")

Care is provided

- A **4** is characterized by **care provision followed by returning to normalcy**. **THERE MUST BE A CLEAR RESOLUTION**.
  Fully resolving distress is not enough. There is a distinction between fully resolving distress and returning to normalcy. It does not necessarily mean that they have to return to playing. It is more about the sense that all is well.

  Care provision with clear resolution
  - THESE ARE EXAMPLES WITH CLEAR RESOLUTION (Resolution noted in Italics)
    "N/G finds the bear and *then they go back to swinging*",
    "G/N says you can borrow my bear and *F says thank you*."

CAREGIVING STORY COMPLETION TASK (CSCT)
Coding Sheet

ID:_____ Date coded _____

Coder and date coded:_____ Child Gender: M F

Visual description of child, including clothing:

	No	Yes
Any video problems or difficulty seeing child and/ or dolls?	0	1
Notes (e.g., what video to use for best view & sound):		

OVERALL ASSESSMENT: Was child collaborative w/ experimenter? 0 1

CAREGIVING SCRIPT SCORE		DAVIDOV EMPATHY	
Dog:	_____	Dog:	_____
Pool:	_____	Pool:	_____
Sleep:	_____	Sleep:	_____
Toy:	_____	Toy:	_____

Key for transcribing:

- E = Experimenter (David)
- C = Child Participant
- N = Noah
- G = Gabby
- F = Friend

– All ACTIONS in plain text, using initials to indicate who is doing what.	N moves in front of F so he's blocking the TV.
– All STATEMENTS in quotes, using initials to indicate the speaker.	N: "I'll find your teddy bear."
Include statements by the experimenter.	E: "Noah says he'll find his teddy bear? Okay."
– Use "P" to indicate prompts at the end	P - E: "Does Noah do anything?" (P2)
– Use a wavy underline to indicate statements you are unsure about.	C: "They go home and find it at home."
– Use "XXX" to indicate statements you can't hear or are uninterpretable even after several listens	C: "And then Jane goes outside and XXX."

1. Big Dog	Start time:		
Dog_ERROR	Did experimenter make an error? *Describe:*	0	1

Child's statements and behaviors (be as detailed as possible):

		No	Yes
Dog_Care	Was care provided?	0	1
→ Dog_SPONT	Was care spontaneous (i.e., came before prompts)?	0	1
Dog_AVOID	Problem avoided/ premature closure/ refusal OR Child resolves problem independently	0	1
Dog_Hostile	Any overt instances of hostility/violence?	0	1 → automatic 1

Dog_CARESCRIPT:

1 2 3 4 999

Score description/ rationale:

EMPATHY

1. **How is N/G feeling? _____**
2. **Why is N/G feeling that way?**
3. **Why would that make N/G feel [#1 answer]?**

SCORE:
Rationale:

2. Swimming Pool	Start time:

Pool_ERROR	Did experimenter make an error? *Describe:*	0	1

Child's statements and behaviors (be as detailed as possible):

		No	Yes
Pool_Care	Was care provided?	0	1
→ Pool_SPONT	Was care spontaneous (i.e., came before prompts)?	0	1
Pool_AVOID	Problem avoided/ premature closure/ refusal OR Child resolves problem independently	0	1
Pool_Hostile	Any overt instances of hostility/violence?	0	1 → automatic 1

Pool_CARESCRIPT:

1 2 3 4 999

Score description/ rationale:

EMPATHY

4. **How is N/G feeling? _____**
5. **Why is N/G feeling that way?**
6. **Why would that make N/G feel [#1 answer]?**

SCORE:
Rationale:

3. Sleepover	Start time:		
Sleep_ERROR	Did experimenter make an error? *Describe:*	0	1

Child's statements and behaviors (be as detailed as possible):

		No	Yes
Sleep_Care	Was care provided?	0	1
→ Sleep_SPONT	Was care spontaneous (i.e., came before prompts)?	0	1
Sleep_AVOID	Problem avoided/ premature closure/ refusal OR Child resolves problem independently	0	1
Sleep_Hostile	Any overt instances of hostility/violence?	0	1 → automatic 1

Sleep_CARESCRIPT:

1 2 3 4 999

Score description/ rationale:

EMPATHY

7. How is N/G feeling? _____

8. Why is N/G feeling that way?

9. Why would that make N/G feel [#1 answer]?

SCORE:
Rationale:

4. Lost Toy	Start time:		
Toy_ERROR	Did experimenter make an error? *Describe:*	0	1

Child's statements and behaviors (be as detailed as possible):

		No	Yes
Toy_Care	Was care provided?	0	1
→ Toy_SPONT	Was care spontaneous (i.e., came before prompts)?	0	1
Toy_AVOID	Problem avoided/ premature closure/ refusal OR Child resolves problem independently	0	1
Toy_Hostile	Any overt instances of hostility/violence?	0	1 → automatic 1

Toy_CARESCRIPT:

1 2 3 4 999

Score description/ rationale:

EMPATHY

10. How is N/G feeling? _____

11. Why is N/G feeling that way?

12. Why would that make N/G feel [#1 answer]?

SCORE:
Rationale:

Comforting Task Coding Manual

Developed by: Jackie Gross, Bonnie Brett, Jonathan Beier, and Jude Cassidy
The University of Maryland

Unpublished Coding Manual

General Coding Notes

This manual codes the variety of behaviors shown by preschool children in a series of 3 tasks measuring children's comforting and/or negative behavior toward an adult experimenter's emotional distress (Phone, Clipboard, and Drawing).

Before you begin coding, please understand that capturing children's nuanced behavior from videotape is difficult to do with a series of strict rules. We have developed these coding rules to help capture the "spirit" of the children's intentions and attitudes, but there will always be cases that aren't covered by the existing rules. Sometimes, we will need to make exceptions to the rules or create NEW rules that more accurately reflect reality. **As a coder, part of your job is to recognize when the existing rules need to be changed or added to in order to better reflect reality.** These rules are no substitute for human reason. Therefore, always keep in mind the spirit of WHAT exactly you are coding and the underlying reasons for WHY. Always be alert and ask yourself what you think is really happening in the task, and whether the codes you enter are accurate reflections of reality. In other words, take into consideration both the "spirit" and the "letter" of the law.

Throughout this manual, we have included explanations for what the code is and why you are coding it, but if you ever feel like you don't fully understand the codes or their reasons, please ask a coding supervisor. It is important that you are fully informed about the construct you are coding.

Sometimes, the manual will specify how many times to watch a task. If, however, you need to watch a task or a portion of a task more times to fully understand what is happening or to hear something more clearly, please watch it as MANY TIMES AS NEEDED. Never guess at what you see or hear. Take the time to replay the segment or task until you fully understand. It is better to be accurate than quick.
It also may seem as though you are watching the task too many times, and it's becoming repetitive and boring, especially when it comes to coding the comforting tasks. However, the more you watch the task, the better you "get to know" the child and coding becomes easier. It is also very easy to miss some subtle behavior, especially if you don't watch it as many times as the manual specifies!

If a child says part of a sentence and then stops, code whatever information you have from what was said. We cannot guess at what the child WOULD HAVE said, but we can go ahead and code what was said. In addition, we cannot give a child credit for something they say they WILL do (but never follow through with), or with what we are certain they WOULD HAVE done (but never actually did).

Never code with another coder in the room. It is very important that your actions not influence any other coder. This includes you both coding silently but together. Only during group meetings may you share any information about coding (other than asking for help with understanding a child's utterances).

Basic Coding Rules for Comforting Tasks

Instructions are the same for Phone, Clipboard, and Drawing tasks.
Code all of one type of task first, then all of the second type, then all of the third type. Do not code all tasks for a single child in a row, because scores from one task should not unknowingly influence scores from another task.

When coding, don't only pay attention to what is said, but also to actions. Nonverbal behavior and body language are also codeable responses.

Watch the video as many times as needed to determine what was said/what is happening. If you can't understand the child, keep watching as many times as needed. Do not guess at what the child said! If you still cannot understand what is happening or what was said, then do the following (in this order):

1. **Check the transcript.**

2. **Open the file in VLC media player and turn up the volume all the way. Wear headphones, as this may also make it louder and clearer-sounding.**

3. **Ask other people in the lab to come in and listen. Ask other RAs and graduate students, whoever is around.**

4. **If no one can understand, then put a large star at the top of the coding sheet, with a note about which interval you could not understand. Bring it to the next coding meeting and we will all listen.**

5. **If no one can understand at the meeting, the starred interval will remain on the coding sheet. Code that interval as though the child said nothing at all - this means the child may get all 0's, or you may be able to code non-verbal behaviors, such as concerned attention or proximity.**

Code each 10-second timeslice as a stand-alone segment. Meaning, for example, if a response begins in the first timeslice and continues into the second timeslice, both timeslices would receive a code of 1 for that type of response. Even if only 1 second of a response extends into a certain timeslice, that timeslice would get a code of 1 for that type of response. Anything less than 1 second does not count. If it's a full word, it counts, even if less than 1 second.

- When coding timeslices, watch out for behavior and/or verbal statements that carry over into the next timeslice, or began in the previous timeslice. It's very easy to miss the codeable response that only occurred for a second in a particular timeslice - this is especially true of behavior!

- You may have to watch an timeslice before or after the one you are coding in order to determine whether something is part of a supportive/negative/personal distress response or not. Context is important.

- When in doubt of the subjective meaning or intent behind a child's response, then go with the literal wording. We cannot guess at child's intent when it is unclear.

- Each task is divided into 4 segments (if it did not end early). See the description of the tasks above for more details. While watching the task for the very first time, try to notice the 4 different segments. You will need to identify in which segment many responses occurred, so be familiar with what each segment looks like.

- As a general rule, never have any blank spaces on your coding sheet. If a certain blank space on the coding sheet is not applicable, then mark it with an X or NA.

- Intervals that are less than 8 seconds long are not included in your total response count. Instead, it will be included as part of the preceding interval. For example, if the last interval is 3 seconds long, it will be added to the previous 10-second interval, to create a 13-second final interval. Code both intervals separately, but then collapse the numbers across both intervals (i.e., if one or both intervals contain a certain behavior, then the 13-second combined interval will get a "1" for that behavior. Only if both do NOT contain the behavior will the 13-second interval get a "0" for that behavior). The only exception to this rule is if the child physically COMFORTS (not just touches) and E ends the task early, resulting in a single, short interval containing this important comforting action. We want 1 and only 1 interval to capture the physical comforting response, so keep the interval, even if it is less than 8 seconds long. Code other response types for what ever you can. If the child physically TOUCHES (non-comforting) or if E didn't end the task early, then code the intervals using the regular rules (above).

Description of Tasks

Phone: In this comforting task the experimenter (E) drops her phone and says, "oh my phone! The screen broke...look, it's all cracked!" Then E acts very sad, moaning and sighing for duration of the task. The maximum duration of this task is 2 minutes (task ended if and when child physically soothed). In the first 30 seconds (approximately), E says nothing (SEGMENT 1). In the second 30 seconds, E states the problem three times (e.g., "I'm so sad my phone is broken", "my phone won't even turn on now") but does not look at the child (SEGMENT 2). In the third 30 seconds, E states the problem three times while looking at the child periodically (SEGMENT 3). In the final 30 seconds, E first asks the child, "Is there anything you can do to make me feel better?", states the problem once more, and then asks, "Can you think of anything else you can do?" (SEGMENT 4). She then resolves the problem – “Oh, I just remembered, my cousin knows how to fix phones… it’ll be alright.”

Clipboard: In this comforting task the experimenter (E) clips his finger with a clipboard and says, "oh, my finger!" Then E acts very hurt, moaning for duration of the task. The maximum duration of this task is 2 minutes (task ended if and when child physically soothed). In the first 30 seconds (approximately), E says nothing (SEGMENT 1). In the second 30 seconds, E states the problem three times (e.g., "my thumb hurts so much", "I clipped my finger really hard!") but does not look at the child (SEGMENT 2). In the third 30 seconds, E states the problem three times while looking at the child (SEGMENT 3). In the final 30 seconds, E first asks the child, "Is there

anything you can do to make me feel better?", states the problem once more, and then asks, "Can you think of anything else you can do?" (SEGMENT 4). She then resolves the problem – “Maybe if I stretch a little… oh that feels better.”

Drawing: In this comforting task the experimenter (E) accidentally spills water on her own drawing and says, "oh my drawing!" Then E acts very sad, moaning and sighing for duration of the task. The maximum duration of this task is 2 minutes (task ended if and when child physically soothed). In the first 30 seconds (approximately), E says nothing (SEGMENT 1). In the second 30 seconds, E states the problem three times (e.g., "I'm so sad my drawing is ruined", "I worked so hard on this and now it's ruined") but does not look at the child (SEGMENT 2). In the third 30 seconds, E states the problem three times while looking at the child (SEGMENT 3). In the final 30 seconds, E first asks the child, "Is there anything you can do to make me feel better?", states the problem once more, and then asks, "Can you think of anything else you can do?" (SEGMENT 4). She then resolves the problem – “You know, I can just make another one tomorrow. Yea I’ll do that!”

Recognizing "segments" within each 2-minute task

It is important before you begin coding that you understand how and why each task is divided into segments. We are interested in the difference between SPONTANEOUS prosocial behavior and REQUESTED prosocial behavior. Some kids will be prosocial, but only after someone asks them to be. Other kids will automatically and spontaneously help a person without any requests or cues. Therefore, we divided every task up into segments, in which the requests for help become more and more obvious. Prosocial behavior exhibited during the first segment will be considered "more spontaneous" than the same behaviors exhibited during later segments. Each segment is ABOUT 30 seconds long.

The first segment is the most subtle, and therefore, any prosocial behavior occurring here will be the most spontaneous on the part of the child. It involves E simply drawing the child's attention to the situation (with a verbal statement), and then not saying anything more about the problem, and not even LOOKING at the child, since looking at someone while in need may be perceived as an implicit request for help.
The second segment is a bit more obvious. It involves E putting the problem into words 3 different ways. In case the child didn't understand the nature of the problem based on non-verbal cues, he/she will understand it now during this segment. That makes acting prosocially a little less spontaneous. However, E still does not look at the child, so as not to imply she is "requesting" help implicitly.

In the third segment, E again states the problem in 3 different ways AND periodically glances at the child. This segment makes prosocial behavior more likely.
In the final segment, E directly asks the child, "Is there anything you can do to make me feel better?" She then states the problem once more. She then asks the question again. Throughout this segment, E is periodically looking at the child.

Use the information below as a guide while coding:

Segment 1 = E doesn't say any sentences (only things like, "oh no") and doesn't look at the child at all. The only exception is that E will say something when the event first happens (e.g., “oh no, my phone broke! The screen is cracked!”). But after this initial comment, E will not say anything else about the nature of the problem or look at the child. E may answer the child's direct questions (because not doing so would be awkward). BEGINS: At the beginning of the initial comment about what happened. ENDS: When E first begins to say something (unless it was a response to the child's direct question, and occurred sooner than 30 seconds).

Segment 2=E states the problem (e.g., "I hurt my finger!", "I'm very sad about my drawing"), but still does not look at the child at all. You’ll know this segment has begun when E first states the problem (and it’s been about 30 seconds). BEGINS: When child first begins to say something for the first time (after about 30 seconds have passed). ENDS: When E first looks at child.

Segment 3=E states the problem AND looks periodically at the child. You’ll know this segment **has begun when E looks directly at the child** and states the problem again (and it’s been about 30 seconds from the start of the previous segment). Out of these two facotrs, the most important one is E looking at the child. BEGINS: When E first looks at child. ENDS: When E first begins to ask, "is there anything..."?

Segment 4=Begins as soon as E asks, "Is there anything you can do to help me feel better?" This will be the final 30 seconds or so of the task. BEGINS: When E first begins to ask, "is there anything..."? ENDS: When E first begins to say something that will resolve the situation.

IMPORTANT NOTE ABOUT SEGMENTS: Sometimes, E made an error while moving through these segments. For example, E accidentally looks at the child at the transition into segment 2, thinking it was segment 3, or if a segment is > 45 seconds. **If this happens, code behaviors as if E did not make a mistake, and simply mark on the coding sheet that there was an error, and what the error was**. If, however, the error was extreme, or makes it difficult to know how to code certain things, (such as E completely skips a segment or makes eye contact multiple times during segment 2), then flag it, do not code, let a coding supervisor know ASAP, and bring it to the meeting.

<u>It is an error if a segment is more than 45 seconds long, or less than 20 seconds long.</u>

Types of Responses

There are a variety of ways that someone can respond when another person is in need of comfort. The goal of coding these tasks is to capture the diversity of responses that a child can display, as well as to capture the frequency and duration of responses. To do this, we have divided all possible responses into 6 categories: (1) supportive responses (with two subtypes: emotion-focused and problem-focused), (2) negative responses, (3) personal distress, (4) concerned attention, (5) proximity increasing/maintaining, and (6) ignoring E's distress.

EVERY MOMENT of a comforting task can be classified into ONE AND ONLY ONE of these categories. **The only exception is that proximity increasing/maintaining can co-occur with supportive responses or concerned attention.** Some responses may seem to fit into more than one category or none of them at all. To determine which category a response is, you will use a decision hierarchy.

- First, consider whether the response is supportive OR negative OR personal distress. It can only be one of these. (If it is supportive then it may also be proximity increasing/maintaining).

- If it is none of these 3, then consider whether the response is concerned attention. (It may also be proximity increasing/maintaining).

- If it not concerned attention either, and it is also not proximity increasing/maintaining, then it will be coded as ignoring E's distress (by default).

- Also, any activity that is being done before the tasks begins is not coded as anything. If the C has their fingers in their mouth before Segment 1, then this would be considered as nothing. Verses if this happens after segment 1, which would be distress.

Use the following guidelines to decide which category a response fits into:

- **Supportive responses**: In general, these responses are intended to make the other person feel better. There are two types of supportive responses: **emotion-focused** (i.e., any response orientedtowards feelings/emotions/mood and with the goal of improving these things) and **problem- focused** (i.e., any response oriented towards solving or taking action to fix the underlying problem.) Use the following examples as a guide to classify the response in question:

Emotion-focused responses

Physical Soothing (e.g., hugging, patting, rubbing, leaning against E, handshaking). *Note: If the physical comforting happens during the Clipboard task, it may be coded as PF, not EF, because touching E would be in the service of fixing the "problem", while touching in every other task would typically only be to make E feel better.*

Verbal Soothing (e.g., "it's ok", "it happens sometimes", “It’s not your fault”)

- If child says, "I/it/she/he/they will make you feel better," this is EF because the focus is on E and/or E's feelings. If child says, "I/it/etc will make IT feel better,"this is probably PF because the focus is on the Phone/Clipboard/Drawing (and thus on the problem).

Reframing the situation as though it's not so bad, in order to make E feel better (e.g., "don't be sad - it's not so bad", "it's not even that wet"). The child’s suggestions can also be oriented towards the future (e.g. “It will get better”), this does not fix or address the problem in an active manner (PF if this is the case), but it reframes the situation to make it seem better because it won’t be so bad in the future. Don't mistake this for negatively rejecting E's distress (e.g., "you shouldn't cry like a baby")

- Also anything that is considered to be passive solutions are considered to be reframing the situation as well. The way to identify these comments is to see if the child is suggesting that they or the experimenter should do anything to address the problem (which would be PF). “the world will heal you” is considered EF because the child is not suggesting to put any effort into fixing the problem. Instead, the problem will resolve itself in the future and therefore is reframing the situation to make it seem better because it will solve itself.

Mirroring E's sadness, in a way that is not personal distress ("awwwwww", "I feel bad", "I'm sad too"). Usually these statements have a similar emotional tone to E's distress, or sound sympathetic. They don't have to be exaggerated emotional expressions, however. A quiet child may look concerned and say, "oh no." The child clearly has to relate their pain to E’s current situation.

Reflection of personal experience with this same problem in which the personal experience ended positively (e.g., "my daddy dropped his phone, and it was ok"). If the reflection of personal experience ended neutrally, negatively, or did not end, then see the concerned attention section (concerned attention requirements would still apply). However, if the reflection is directly related to the experimenter at any point (e.g. “that is like what happened to you”) would be considered EF, no matter how the story ended.

Compensation (i.e., physically giving OR offering to give/share an object to E in order to help E feel better). Examples of compensation include: getting a book off the shelf and bringing it over to E, sharing the child's own nickels with E, saying, "I could buy you a racecar", saying, "do you want a cookie?".

- NOTE: It's only considered compensation if the material object offered isn't a "problem-fixer" but rather is an "emotion-helper". That is, consider whether the object offered is instrumental in "fixing" the problem at hand (e.g., like giving a bandaid when E hurts her Finger, giving own drawing when E ruins hers) or, instead, is something irrelevant to the problem whose only purpose is to improve E's mood (e.g., like giving a teddy bear or an ice cream cone when E hurts her Finger). If the object offered is an "emotion-helper", it is compensation, because it targets the EMOTION of E, helping her to feel better. If the object offered is a "problem-fixer", it is NOT compensation, and instead is a problem-focused solution, because it targets the PROBLEM of E, helping her to solve it.

Attempts to distract E from her distress by introducing a new toy or activity to E with the intention of cheering her up. This is different from compensation because the child doesn't actually give or offer to give it to E, but just mentions it or holds it up to show E. This could include attempts to bring E back to play.

- Don't confuse attempts to distract with ignoring E's distress. Attempts to distract must include overt efforts to include E in the play, such as showing her a book orhanding her a toy, and cannot be simply comments that the child is directing toward E (e.g., "look at this castle I made!"). Attempts to distract are always Experimenter-focused, and not child-focused. A way to tell if it is Experimenter focused is if the child tries to get the E’s attention.

Friendly invitations to play (e.g., looking at E, smiling, switching to a new toy, phrasing the invitation as a suggestion for what E could do like “you can still…”). The key component here is that the child is trying to be nice to E while suggesting new play activities. If the child stops showing same friendliness or keeps suggestions the same thing over and over after E clearly says she doesn’t want to, then it is no longer a friendly invitation to play.

- A good way to tell if this happened or not is to see if the child waited for E to response to their suggestions.

Problem-focused responses

Verbal instrumental helping. This category includes all suggestions for fixing the problem (e.g., "I'll buy you another one", "I'll get my mommy to help you", "when I get hurt, I do xx", "you could try to clean it up", "you can go to the doctor or get some medicine "). It also includes suggestions meant to be helpful, or advice (e.g., "you should watch out next time", "be more careful"). **It does not include** statements about how the child did it correctly (e.g., "I pushed my chair back", "I didn't spill my water", "my phone is still ok").

1. Anything intended to be helpful toward making the problem or broken item itself better/go away, even if it's not reasonable or logical for the situation. For example, saying, “we can put some sand on it." While this might seem like nonsense because sand cannot help a phone or hurt finger, if the child is oriented to the situation and trying to help, then it would be counted as PF. We are not coding how much sense a child makes but whether they are trying to solve the problem or not. E.g., a child offers to fix the phone in order to help the finger. This is PF.

Physical instrumental helping. These are physical ACTIONS the child takes to remedy the problem, and may or may not be accompanied by verbal instrumental helping (e.g., trying to clean up mess or fix the phone, wiping the drawing with hand, shaking the phone).

- The child must be doing something ACTIVE to the object to be considered PF and not simply curiosity or CA.
- e.g., MUST BE OBVIOUSLY TRYING TO CLEAN/REPAIR/MEND. USE THE WORDS OF THE CHILD BEFORE AND DURING AND AFTER THE ACTION TO HELP DECIDE THE PURPOSE OF THESE ACTIONS (e.g., "let me get this for you" is a clue that the action that follows is PF).
- Active things include: shaking the phone (rather than just picking it up and looking at it), holding up the drawing and shaking it (rather than just holding it up to look at it), balling up the drawing in order to throw it away or use it to clean off the table, or folding it deliberately to tidy it up (rather than just folding it over to look at the back of it). Moving a single finger across the drawing does not count as PF, as this is just playing with it (not CA, Neg, or PF). But wiping the water off with a hand is PF.
- ***But above all, use child's words to help decide if the action is meant to be helpful or is FOR the experimenter's benefit. That may clarify some of these ambiguous actions.***

If the child says something about how his/her mom, other family member or they could help, or ANY OTHER person could help, including the child him or herself, without specifying

what the "help" would be, we will code these as problem-focused. If the child is more specific about what the help would entail, code it accordingly (e.g., "my mom could give you a teddy bear" is emotion-focused).

Asking where another person is, without giving more info, is too vague to be considered PF (e.g., "where the other lady at?", "where's my mom?"). This would be considered CA.

If the child asks a question (e.g. “why don’t you get a band aid” or “You have band aids at home”). Even though this is a question, the child has a solution in mind and directly relates it to the experimenter (uses a you). If there is a you in a question and a solution as well, then it is PF.

Future and Present suggestions (e.g., “You should be more careful”) are also considered PF. This is because they are trying to fix the problem in the future. Using what happened as an example to change the behavior in the future.

Note: *Consider the child's tone of voice, facial expression, and context when deciding if a suggestion or statement is actually supportive, or if it was meant to be callous, demanding, or controlling. For example, the phrase "you should be more careful" could be considered a negative response if it's taunting, callous, or if the child is ordering E. It could also be considered supportive if delivered in the right way. A statement like "you hit your finger" could be taunting and judgmental, or it could be sympathetic.*

If you see a response that you think is supportive and is not included on this list, please tell a coding supervisor and it may be added to the manual.

What to do when a response could be classified as both emotion- AND problem-focused:

By their nature, problem-focused responses are often intended to both fix the problem at hand AND to improve the emotions of E. However, we cannot guess at the intentions of the child and can only use what we see and hear from the child. Therefore, responses intended to fix the problem will only be coded as problem-focused. If, on the other hand, the child explicitly mentions feelings/emotions or says something that shows he/she is thinking about the internal state of E (e.g., "I'm sorry", "it'll be ok", "don't worry", "don't be sad", "are you alright?", “Make you feel better”), then we can code for the presence of an emotion-focused response as well. Therefore, some statements can be double-coded as both problem- and emotion- focused WITHIN THE SAME SENTENCE, as long as both elements are present. For example, if a child says, "it's ok, I can buy you another one", then "it's ok" will be coded as emotion-focused, and "I can buy you another one" will be coded as problem-focused. Another example of both in one sentence is “You can go to the doctor and you will feel better!”. The part about going to the doctor is PF, but the "feeling better" part is EF because the child is addressing E’s distress and/or feelings.

****** If the action is definitely meant to comfort E but there is no way to know if the action was EF or PF, always default to PF.**

- **Negative responses:** In general, these responses would typically make the Experimenter feel worse about her situation. Examples include:

- Laughing at E. (If you're not sure whether it's a laugh or not, then code it as though it were not)
- Teasing/taunting/mocking (e.g., while smiling, "you hurt yourself again!"). This is not to be confused for sympathetically restating the problem.
- Callous statements (e.g., "that's what you get", "you suck")
- Statements or "suggestions" that seem controlling or demanding (e.g., "don't spill it anymore!!!") This is not to be confused with helpfully giving advice.
- Scolding (e.g., "Why did you do that, you shouldn't do that").
- Any ambiguous sentence (could be interpreted as nice or mean, such as "you should be more careful") that is said in a negative way, such as yelled or screamed.
- Any sentence that brings all the focus away from E and onto the child, especially if said in a negative tone of voice.
- Intentionally making the situation worse (e.g. ripping or ruining E's paper, dropping the phone). Note: this does not include accidentally ripping the drawing while taking off the stickers on E's paper.
- Also includes intentionally holding back a way to help because of E's emotional state
- Any past tense suggestion (e.g. "You should have been more careful") with another negative response listed above (laughing, mocking, etc.)
- Smiling can also be considered negative if it is followed by or just after yelling, scolding, teasing, etc. Smiling is considered negative if it occurs in the interval before or after the negative event.

  Consider the child's tone of voice, facial expression, and context when deciding if a suggestion is helpful, or if it was meant to be callous, demanding, or negative. There should be no doubt when coding negativity. The phrase "you should be more careful" could be considered a negative response if it's taunting, callous, or if the child is ordering E. It could also be considered supportive if delivered in the right way. ***CONTEXT IS KEY.***

If you see a response that you think is negative and is not included on this list, please tell a coding supervisor and it may be added to the manual.

• **Distress / arousal**: Sometimes, a child becomes upset when another person is upset. This is always self-focused. Examples of personal distress include:

- Crying, whining, or whimpering because child is distressed. If there are other cues that point to a different motivation (e.g. child can't reach across the table, child is being impatient), these would not be coded as personal distress
- Very obvious facial distress (e.g., face falls and looks like about to cry). This does not include anything that could be confused with concerned attention; it must be clearly distress. This expression can also be instantaneous as well.
- Physical self-soothing (e.g., thumb-sucking, hand wringing, touching eyes/face) for at least three second
- Verbal statements of personal distress (e.g., "I wanna go home", "I don't like this").
- Speaking in a strained, upset-sounding way.
- Upset about own thing they messed up
- Defensiveness (e.g. "It's not MY fault").

- Active disengagement is distress. The child does everything in their power to not pay attention to E's problem or pai

If you see a response that you think shows personal distress and is not included on this list, please tell a coding supervisor and it may be added to the manual.

- **Concerned attention (CA):** Only if a response cannot be classified as any of the three categories above, then it may be considered for concerned attention. Please understand what CAis before attempting to code it. This is because often, you will just have to use your best intuitivejudgment in deciding whether the child is showing CA "in spirit". We think of CA as an outwardsign that the child is concerned about E: the child's thoughts are tuned into E's distress and the child has entered E's mental world. The child is allowing him/herself to enter E's "zone of distress" by acknowledging the situation. The child could express this concern in two ways: overtly or through non-verbal means.

What is NOT considered CA?

- NODDING HEAD OR SAYING YES IN RESPONSE TO E'S QUESTION N SEGMENT.
- If the child is in the midst of an EF or PF solution, child cannot also get credit for CA. Be sure to watch out for non-verbal EF or PF (e.g., child goes to cabinet to get a book for E, brings book back, and is holding it up for E to see, child is holding out her drawing for E to take), because that whole block of time cannot be considered CA.
- If the sentence child says qualifies for overt CA (below) but is also part of the EF or PF solution, then it is not CA (because it's already considered part of the comforting solution).
- ANY CARRYOVER

Overt (verbal) CA: If a child says something that does not qualify as comforting, yet shows that he/she is acknowledging the situation or that something bad happened, then it's CA. This could include something showing that they are thinking about E's plight, but without explicitly offering a solution or comfort.

It is overt (verbal) CA if: Child says or does any of the bullet points listed below (for any length of time, even a second or two), AND does one of the following:

- shows reduced/minimal play for at least 3 seconds during or very near to the time thestatement was made
- or shows very obvious facial concern for any length of time (i.e., is not simplyacknowledging the situation, but is CONCERNED about the situation)

- "I can't help you," if said in a tone that suggests the child is sympathetic.
- "I have bandaids at home." Again, consider tone of voice and facial expression. This is not problem focused because the child does not related the suggestion to the Experimenter.
- Seeking more information about the situation (e.g., "what happened?", "are you hurt?", "does it hurt?")

- Reflecting on a personal experience similar to E's problem, in which the ending was neutral, negative, or doesn't have an end (e.g., "I went to the phone store when I broke it,

and it cost a lot of dollars"). Basically, this includes any ending that is not positive, because a positive ending implies that it will also turn out OK for E (in which case, this is EF comforting).

- Sympathetic restatement of what happened (e.g., "you hurt your finger??", "your drawing!") Consider the child's tone of voice, facial expression, and other cues of sympathy to determine if the statement is truly concerned. We include these types of statements into CA because it is a way of connecting sympathetically with E's plight, entering her zone of distress, and acknowledging that something bad has happened to her, but it does not qualify as comforting.

1. But, getting more information about E's emotional state **is** considered emotional focused response. And example of this would be "are you sad right now?" or "youokay?"

   "Let me see…" (or showing other obvious signs of "thinking" about what to do for at least 3 sec, such as looking up and tapping chin or saying, "hmmmmmm", or looking around the room for something).

   If you're not sure what child says, but child is clearly oriented to the situation (and you can't give them credit for any other code), then code as CA (see nonverbal CA section below).

   Anything that is a past tense suggestion (e.g. "You should have been more careful"). Unless paired with any negativity (e.g. smiling, laughing or a scolding tone).

   Any miscellaneous stories or thoughts THAT RELATE even in the slightest TO THE CURRENT PROBLEM but do not end well are also considered Overt Ca.
   Child is thinking about the problem.

Non-verbal CA: Even though the child is not saying or doing anything, we can tell that he/she is concerned about the situation or about E. We can tell because the child becomes focused on the scene, often stops playing and talking, and stares at E with a concerned expression. Sometimes, the child shows momentary gaze aversions from E (1 second or less), because the situation is hard to look at, and so the child quickly glances away and looks back again.

To be coded as concerned attention, the child must be doing the following things **simultaneously for at least 3 continuous seconds**:

- MUST be oriented toward the scene, which includes looking at E or the object (i.e., turned toward her and paying attention to what is happening with her). If, during this time, the child momentarily looks away from E (i.e., 1 second or less) and then looks back again, that is ok. This is simply a gaze aversion, and can happen during CA.
- MUST have a neutral/concerned face (i.e., not smiling or crying or very obviously distressed)
- MUST be playing/doing an activity less than he/she was moments before the task began (e.g., reduced energy in play, stopped swinging legs or arms as much, stopped play altogether). This is because reduced play indicates that the child is "tuned into" E's pain and is paying more attention to E's situation than to previous play. If the child wasn't

playing at all before the scene began, then reduced play will simply be not playing at all. It is, however, possible for the child to be walking or moving closer to E while showing concerned attention.
- Cannot overlap with words or actions that have already been classified as comforting, negative, or personal distress.
- The child could be listening to something E is saying or listening to E respond to him/her as part of an ongoing conversation. If the child is having a conversation with E, they MAY get codes for CA only while listening to E, as long as they otherwise meet all the criteria for CA.

• **Proximity increasing/maintaining:** This code is for any physical movement towards E. This only includes steps, so leaning forward does not count. The ONLY exceptions are:
- Child is on a mission to reach another location in the room and just passes by E, and does not stop. If child stops for any reason, and looks at E or the situation (for at least 2 seconds), then it's proximity.
- Child must clear the table in order to get proximity for (drawing and phone task). They must go at least around the bend in order for the movement to be considered a new destination.
- Once at their destination, if child turns around and looks at E/situation (for at least 2 seconds), this is proximity (IF the destination is closer/as close to E than the child's original position, such as by the box of sand toys). If the destination is farther than original position (such as the cabinet or the nickels by the door), turning around to look at E/situation is NOT proximity.
- Once at the destination, any movement toward E is proximity and is subject to the same rules that applied to movement toward E from the original position (behind the sandtable).
- What if the child moves to ANOTHER destination (i.e., has a goal/place in mind and doesn't stop): see the first bullet point. Once at this new destination, see the second bullet point. In this case, "original position" refers to child's FIRST position (when the task started; not the previous destination).
- Side to side stepping does not count if the child stays behind the sand table. Child must come out around the table (if seated) to get proximity (or be on her way out from behind sand table plus on her way directly over to E).
- If the only proximity in a given interval is carry-over from the previous interval, child must hold that position for at least one whole second to count as proximity in that interval.

If the child is wandering around the room, pacing, or appears to have no particular destination or goal in mind, you cannot use the "destination" rule stated above. If this happens, the child is increasing/maintaining proximity whenever he/she is CLOSER to E than when child first started to wander.

• **Ignoring E's Distress:** This code will capture any response that cannot be coded into any of the above 5 categories. As a result, this code will not reflect the child ignoring E or the entire

situation, but rather it should reflect the child ignoring SPECIFICALLY E's distress. Examples include:

- Keeping attention focused on activity
- Smiling at E (i.e., not concerned attention because not neutral/concerned)
- Making irrelevant conversation (e.g., "my birthday is tomorrow")
- Staring at the floor
- Statements about the child's own property not being damaged (e.g., "MY phone isn't broken", "MY drawing isn't wet")
- Statements about the child's play or activity that he/she has been occupied with (e.g., "look, I finished the puzzle!")
- Statements about a toy/activity that aren't meant to cheer E up (e.g., "I wanna keep playing dinosaurs with you.")
- When E asks, "is there anything you can do to help me feel better?", if the child simply says, "yes" or nods head (or says "no" or shakes head), without actually saying or doing anything in addition to this, this will mostly likely be coded as Ignoring E's distress. That is because it is not supportive, negative, personal distress, or CA.
- Any response that cannot be classified

Coding setup

- Open the INTERACT program (you will need to close and reopen between every task).

- Select "Open existing data file" and select the template of the child/task you are coding. Each task has its own file, but you want to **always code the tasks in the order they were presented to the child.** Some children will start with Phone, and others will start with Drawing. Clipboard will always be last (unless there are unusual circumstances, such as child did not cooperate and a task had to be skipped, fire drill, etc). Start with the task that happened first, then code the second task, then the last task.

- Double click "Set 1" on the lefthand side of the screen, and several green pencils should appear below it. These are the 10-second timeslices.

- Click on the small manila folder at the top left corner of the small Control Panel window. Select the correct video to open. The video should appear in a separate window.

- To jump straight to the task, double click on the white space to the left of the first green pencil. If you want to view the task from beginning to end without breaks, use the Control Panel (press the righthand green arrow to play it through). If you want to view the task with the 10-second breaks, use the green pencils (double click the white space next to the timeslice you want to view).

- Open the transcript (if available). It will be located on the U: drive. Use this to help you understand speech when you're not 100% certain of what the child is saying. Always have it open in the background.

- Get the correct post lab notes from the Wave 1 or Wave 2 outcome drawer (located in the very back of the cabinet).

- Get a blank paper coding sheet of the correct task, and fill in the basic information at the top. USE THE START AND STOP TIMES SPECIFIED IN INTERACT (the first and last times, located next to Set 1).

- Now that you have everything in front of you, BE VERY SURE YOU ARE CODING THE CORRECT CHILD. Play the video from the very beginning until the white board reveals the subject (e.g., S1) and participant number (e.g., 4011). Verify that it matches the INTERACT template you have open, the video you opened, the transcript you have open, and the post lab notes in front of you.

- If they all match, then write the participant number at the top of EVERY PAGE OF your paper coding sheet. Now you are ready to follow the coding procedure below.

- You may also want to have a blank sheet of paper or Word document open to jot down any questions/comments for the group that arise during coding that you can bring to the next coding meeting.

Coding Procedure

- **Make general notes on your paper coding sheet.** Before you begin, take out the post-lab notes sheet for this participant and read the Prosocial Notes section for any relevant details about this task. First, write the physical description of the child, and verify that it matches the child in the video you have open. Then, write all relevant notes in the "Notes" section of your coding sheet. This could include notes specifically about this particular task (phone, Clipboard, or drawing) OR about comforting tasks in general OR about the entire lab visit (whatever is relevant to this task). If there is nothing, write "None". Keep these notes in mind while coding.

- **Watch the entire 2 minute task all the way through. Again verify that you are coding the correct child by making sure the physical description matches what you see. While watching, get a feel for this child's behavior and become familiar with the task. Also take note of when you think the Experimenter moved from one segment to the next. Then code the following items:**

1 If phone task: Did E say "the screen is broken! It's all cracked!", or something similar? If clipboard task: Did E say, "Oh my finger!", or something similar? If drawing task, did E say, "oh no, my drawing", or something similar? (1=yes, 0=no). IF NO, WHAT DID E SAY? Write it verbatim. IF YES, MARK AN X.

- Also, the prompt can happen anytime after the initial 15 seconds. **If 15 secondshave past since the start and there has not been a prompt, list what E said,and indicate there was a segment error.**

Did E make any errors with regard to segments? This could include (but is not limited to): stating the problem or looking at the child during segment 1 (other than the initial prompt or in response to a direct question from child), looking at the child during segment 2, NOT looking at the child during segment 3, NOT stating the problem during segment 2, asking "is there anything you can do...?" during segment 3, NOT asking 2 questions during segment 4, NOT looking at the

child during segment 4. It can also happen if one segment is > 45 seconds or <20 seconds (if a segment is =45 or 20 seconds, then there is no error.) (circle Y or N)
During which segment(s) did the errors occur? As an example, if E accidentally looked at the child at the very beginning of segment 2 (the transition INTO segment 2), mark the error as occurring in segment 2. Circle all that apply (1, 2, 3, or 4). IF YES, DESCRIBE THE ERROR.
During which segment of the task did the child first physically comfort E? (1= before E has stated the problem, 2=E has already stated problem but has not yet looked at the child, 3=E has already looked at the child but has not yet asked if there's anything he/she can do to help, 4=E has already asked if there's anything child can do to help, but task has not yet ended, 0=child did not physically comfort).

Note: Code this as the segment within which the first moment of physical contact was made to soothe E.

Physical comforting includes: any touching that was made as the result of a PE or EF comforting strategy (e.g., hugging, placing a hand on E, putting a pretend bandaid on E's finger). It does not include touches that happened as the result of some other, non-comforting goal, or accidental touch, or cases in which E touched the child and not the other way around.

2 During which segment of the task did the child first physically TOUCH E in a NON-comforting way? (1= before E has stated the problem, 2=E has already stated problem but has not yet looked at the child, 3=E has already looked at the child but has not yet asked if there's anything he/she can do to help, 4=E has already asked if there's anything child can doto help, but task has not yet ended, 0=child did not physically touch in a non-comforting way).

Note: Code this as the segment within which the first moment of physical contact was made. Examples include: Incidental touch, like brushing against E's arm while doing something else, pulling E toward the door because child wants to play outside, bumping into E.

Physical touch includes incidental or accidental touches or those in service of a non-comforting goal. It does not includes touches that the experimenter initiated. If there is any ambiguous situation where a touch might have happen, then look at the lab notes. If the experimenter mentioned a touch then there is a touch. If not, then always side with no physical touch.

• **Now, you will break the task up into 10-second intervals ("timeslices") in order to see how frequently the child shows each of the five types of response (i.e., supportive, negative, personal distress, concerned attention, and proximity increasing/maintaining). Because all comforting tasks were approximately 2 minutes long, each task will have approximately 12 timeslices, but the number may vary as individual tasks may have lasted slightly longer or shorter than 2 minutes. ADD THE TOTAL FREQUENCY OF EACH RESPONSE ON YOUR CODING SHEET, BUT DO NOT INCLUDE THE FINAL INTERVAL IF IT IS LESS THAN 8 SECONDS LONG. You do not even need to code final intervals that are less than 8 seconds. The only exception is when E stops the task due to physical comforting. In this case, we want 1 and only 1 interval to capture that comforting behavior. Do not throw it out, even if it's less than 8 seconds long. The entire interval will be coded and included in**

the totals for all codes in this case. If the child physically comforts and E does not stop the task, or if the child physically TOUCHES (i.e., would not get an EF score), then stick to the regular rules.

Step 1. COMFORTING: Watch each 10-second timeslice (one at a time) to code for the presence of an emotion-focused and/or problem-focused supportive response in that timeslice.

- Does any portion of the given timeslice contain any portion of an emotion-focused response that is at least 1-second long OR that contains at least 1 full word? (1=yes,0=no)
- Does any portion of the given timeslice contain any portion of a problem-focused response that is at least 1-second long OR that contains at least 1 full word? (1=yes,0=no).

Step 2. NEGATIVE RESPONSES: Watch each 10-second timeslice (one at a time) to code for the presence of a negative response OR personal distress in that timeslice.

- Does any portion of the given timeslice contain any portion of a negative response that is at least 1-second long OR that contains at least 1 full word? (1=yes, 0=no).
- Does any portion of the given timeslice contain any personal distress that is at least 1-second long OR that contains at least 1 full word? (1=yes, 0=no).

Step 3. CONCERNED ATTENTION: Watch each 10-second timeslice (one at a time) to code for the presence of concerned attention in that timeslice.
Does any portion of the given timeslice contain overt CA or AT LEAST 3 FULL SECONDS of non-verbal CA? (1=yes, 0=no). *Please remember that concerned attention cannot occur AT THE SAME MOMENTS as any of the above 3 types of response. However, a given 10-second timeslice may contain codes for supportive response AND concerned attention (or negative and concerned attention, or personal distress and concerned attention), but these codes must have happened at different moments within that timeslice (e.g., supportive response ended within the first 3 seconds, and concerned attention began immediately after it). CA* ***can't*** *carry over.*
NOTE TO CODERS: If it's non-verbal CA, a timeslice must contain within it a full continuous 3 seconds as a stand-alone interval to be coded as having concerned attention.

Step 4. PROXIMITY: Watch each 10-second timeslice **one more time** (one at a time) in order to code for the child increasing OR maintaining proximity to E.
At any point during the given timeslice, did the child exhibit proximity increasing/maintaining for at least 2 seconds? (1=yes, 0=no).

Step 5. IGNORING: After you have coded all 5 types of response in all 10-second timeslices, code for the lack of any response in each timeslice (i.e., ignoring E's distress). You don't need to watch the timeslices again to do this.
For each timeslice: Were there NO types of response coded for in this timeslice? (1=yes, there were no coded responses, 0=no, there was at least one coded response).

Step 6: Enter the number of intervals that were calculated in your total. This won't include rows with 999 (missing data), or intervals of less than 8 seconds long (unless child physically comforted and E ended the task early because of this - then you WILL include that interval in the total).

Note for if the pre-made template gives you the wrong number of segments and does not end at the correct time: Calculate the number of seconds in the "real" final interval to the best of your ability. If it's close to the cut-off point (7 or 8 seconds), then consider it being only 7 seconds.

- **After coding the timeslices, answer the following questions on your coding sheet. Go back to view the video as many times as needed:**

- During which segment of the task did the child first begin an EMOTION-FOCUSED supportiveresponse? (1= before E has stated the problem, 2=E has already stated problem but has not yet looked at the child, 3=E has already looked at the child but has not yet asked if there's anything he/she can do to help, 4=E has already asked if there's anything child can do to help, but task hasnot yet ended, 0=child did not display an emotion-focused supportive response).

  Note: Code this as the segment within which the child first begins to say or do theemotion-focused supportive response.
- During which segment of the task did the child first begin a PROBLEM-FOCUSED supportive response? (1= before E has stated the problem, 2=E has already stated problem but has not yet looked at the child, 3=E has already looked at the child but has not yet asked if there's anything he/she can do to help, 4=E has already asked if there's anything child can do to help, but task hasnot yet ended, 0=child did not display a problem-focused supportive response).

  Note: Code this as the segment within which the child first begins to say or do theproblem-focused supportive response.
- During which segment of the task did the child first begin a negative response? (1= before E hasstated the problem, 2=E has already stated problem but has not yet looked at the child, 3=E has already looked at the child but has not yet asked if there's anything he/she can do to help, 4=E has already asked if there's anything child can do to help, but task has not yet ended, 0=child didnot display a negative response).

  Note: Code this as the segment within which the child first begins to say or do thenegative response.
- During which segment of the task did the child first begin to show personal distress? (1= before E has stated the problem, 2=E has already stated problem but has not yet looked at the child, 3=Ehas already looked at the child but has not yet asked if there's anything he/she can do to help, 4=E has already asked if there's anything child can do to help, but task has not yet ended, 0=childdid not display a negative response).

  Note: Code this as the segment within which the child first begins to show the personaldistress.
- During which segment of the task did the child first begin to increase proximity to E? (1= before E has stated the problem, 2=E has already stated problem but has not yet looked at the child, 3=Ehas already looked at the child but has not yet asked if there's anything he/she can do to help, 4=E has already asked if there's anything child can do to help, but task has not yet ended, 0=childdid not increase proximity).
- Did the child mention his/her/anyone's mom/dad/grandparent for any reason?

<u>Also mark on the coding sheet the timestamp for when the mention BEGAN, as well as copy verbatim what the child said.</u>

- **Global Score -** Watch the task 1 more time from beginning to end. Mark quick bullet point notes about the types of things the child said or did during the task. Rate each bullet point in terms of its quality of comforting. Count the total number of unique strategies.

Use these bullet points to help you code the global score.

What is your overall impression of how comforting this child was toward E? *Note: this code should be done immediately after the other codes were entered, so the child is fresh in the coder's mind.*

All previous scores have only considered frequency and latency of the response, leaving us unable to differentiate between a child who gives away their own possessions from a child who simply gives advice. This global score will capture the diversity, quality, and activity of child's attempts to comfort. Consider the number of DISTINCT attempts, including the creativity seen in the diversity. A child who suggests the same thing over and over will not be treated the same as a child who suggests the same number of things but which are all distinct and creative. Also consider the quality of attempts, especially sweet statements or offers, big gestures, and offers to give E the child's OWN possessions (e.g., nickels, balloon, drawing). Also, the quality of a persistent attempt will be higher than that of an attempt made just once. Also consider the activity of the child's attempts (e.g., a child who goes to the shelf to get something, or to the door to look for help, is not the same as a child who sits in her chair and continues playing while simply saying suggestions). You will also inevitably consider the frequency of comforting, amount of concerned attention, proximity, ignoring, attitude, general demeanor, negativity, etc. The amount of proximity is also the deciding factor if wavering between two scores.

I. - Not at all comforting. To get this score, a child may:

- Show no sign of being concerned about the experimenter's distress and make no effort tocomfort her
- Show concerned attention within the first 15 seconds of the task, but subsequently showsno concerned attention and no comforting behaviors
- Make one or two brief and minimal efforts to comfort, with very little to no concerned attention
- Make a few half-hearted attempts to comfort, but largely ignores or acts negativelytoward E
- Child is personally distressed for much of the time and unable to focus on E's needs

II. - In between a 1 and 3. (for ex: at least 70% CA but no attempts to comfort, not engaging Emuch or at all, and no proximity; or at least 50% CA with 1 minimal attempt to comfort)

III. - Somewhat/moderately comforting. To get this score, a child may:

1) Attempt at least 3 or 4 distinct mid-quality ways to comfort, with concerned attention for $\geq 33\%$

2) Attempt at least 2 distinct and mid- to high-quality ways to comfort with concerned attention for $\geq 50\%$

3) Display concerned attention for more than 75% of the task, with one mid-high or high- quality attempt to comfort.

IV.- In between a 3 and a 5.

V. - Very comforting. To get this score, a child may:

- show ANY large display of physical comfort (e.g., a hug) at any point
- physically comfort with a handshake, rub, or pat within the first 30 sec, or in addition to trying at least 3 other comforting strategies
- attempt to comfort for more than 75% of the duration of the task, MOSTLY mid- to high-quality comforting; when child wasn't comforting there was CA or Proximity.
- Attempt at least 7 distinct mid-quality ways to comfort.

NOTE: If any CLEARLY negative responses or some OBVIOUS OR PERSISTANT physical distress (e.g. almost crying)(distress in 3 or more time slices) responses are present, knock the global score down one point

- Once you've finished filling out the paper coding sheets for ALL 3 TASKS, open your SPSS document located in your folder on the U:drive. Carefully transfer the codes into the SPSS document, verifying that you're on the right row, and are starting at the correct column. REMEMBER that when you add up the timeslice totals, DO NOT INCLUDE THE FINAL TIMESLICE IF IT'S LESS THAN 8 SECONDS.

- Save your SPSS document twice, so that you always have 2 copies. Save in between every child.
    - Sometimes, you are unable to code an event or an entire situation. If this is the case, theninput the number “999” into the excel sheet. The best example is when an entire video ofa situation, like Clipboard, is missing. Before marking "999", be sure to code whatever you can based on the post-lab notes.

- After all 3 tasks have been coded and entered into SPSS, go back and double check that all codes were transferred correctly from paper to SPSS.

- Clip all 3 paper coding sheets together and file them in your folder. Store the folder on the wall behind the door and bring to every coding meeting. Put completed packets into your file folder in the cabinet.

CLIPBOARD TASK CODING SHEET

1:ID 4__ __ __ 2:Experimenter _____ S_____

Start time _____ Stop Time_____

3:CoderName_____ 4: Coder #: _____ 49: ClipOrder: 1 2 3

A. General Notes/visual description:

B. 1st WATCH - ORIENTATION, CHECK FOR EXPERIMENTER ERRORS, TOUCHING

Did the experimenter give the prompt at the beginning?
50: Clip_Prompt Yes=1 No=0

If no, what did E say? _____

Did the Experimenter make a segment error?
51: Clip_SegError Yes=1 No=0

Circle all segments where error occurred 1 2 3 4 None

Describe the error:_____

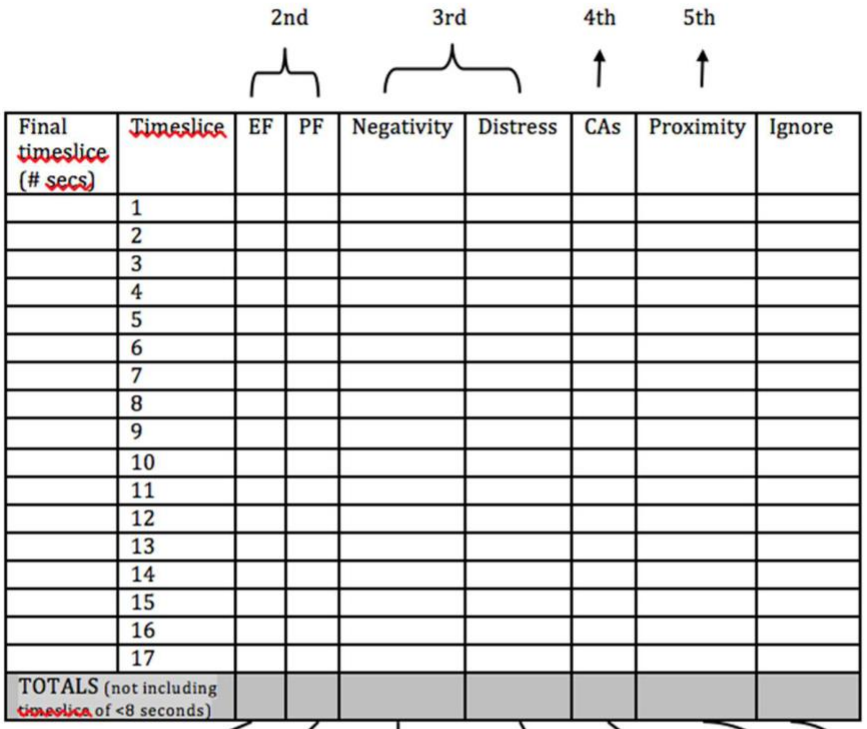
During which segment did the child first provide physical comfort to E? (5=did not ever)
52: Clip_PhysComfort_seg 1 2 3 4 5

Did E end the task due to physical comforting?
53: Clip_PhysComfort_EndTask Yes=1 No=0 Not Applicable=2

During which segment did the child first touch E in a non-comforting way? (5=did not ever)
54: Clip_PhysTouch_seg 1 2 3 4 5

Did E end the task due to physical touching?
55: Clip_PhyTouch_EndTask Yes=1 No=0 Not applicable=2

C. 2nd THROUGH 5th WATCHES - FREQUENCY OF RESPONSE TYPES



Final timeslice (# secs)	Timeslice	EF	PF	Negativity	Distress	CAs	Proximity	Ignore
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
TOTALS (not including timeslice of <8 seconds)								

56: Clip_EF 57: Clip_PF 58: Clip_Neg 59: Clip_Distress 60: Clip_CA

61: Clip_Proximity 63:

Number of timeslices included in totals count: _____

62: Clip_Ignore

Summary of child's actions and attempts to comfort:

D. LATENCY OF RESPONSES (DERIVED FROM BOX C) - Watch segments again as needed

During which segment did the child first show an emotion-focused response (circle 5 if never)?
64: Clip_EF_Seg 1 2 3 4 5
65: Clip_EF_Pres 0 1
During which segment did the child first show a problem-focused response (circle 5 if never)?
65: Clip_PF_Seg 1 2 3 4 5
65: Clip_PF_Pres 0 1

During which segment did the child first show a negative response (circle 5 if never)?
66: Clip_Neg_Seg 1 2 3 4 5
65: Clip_Neg_Pres 0 1

During which segment did the child first show a personal distress response (circle 5 if never)?
67: Clip_Distress_Seg 1 2 3 4 5
65: Clip_Distress_Pres 0 1

During which segment did the child first begin to increase proximity to E (circle 5 if never)?
68: Clip_Proximity_Seg 1 2 3 4 5
65: Clip_Proximity_Pres 0 1

Was a "mom or mother", "dad or father", or grandparent mentioned?

69: Clip_Caregiver Yes=1 No=0

Timestamp of start of phrase:_____

Record verbatim phrase:

_____

E. FINAL WATCH - GLOBAL CODE

What is your overall impression of how comforting this child was toward E?
Consider diversity, quality, and activity of child's attempts

70: Clip_Global 1 2 3 4 5

Appendix I: Pre-Registration

Title: Mothers' secure base scripts and children's attachment, caregiving scripts and behaviors.

Authors: Martha Davis Straske, Jessica A. Stern, Jude Cassidy

Description

There is a well-established link between maternal secure base script knowledge and child security, across multiple measurement types of child security, such that child security is positively associated with mothers' secure base script knowledge (Bost et al., 2006; Tini et al., 2003; Wong et al., 2011). To my knowledge, there are only two studies that specifically connected child attachment script scores to maternal attachment script scores (Wong et al., 2011; see also dissertation by Apetroaia, 2009). This study's first goal is to expand on existing literature by connecting maternal attachment script representations to child attachment script representations.

However, little is known about moms' secure base script knowledge predicting child outcomes other than security. Two outcomes that may be predicted from mothers' secure base script knowledge include children's caregiving scripts and behaviors. One potential mechanism for these links is a mother's response to her child's distress. This could be a mechanism because these responses model caregiving and generate a cognitive framework for how one cares for others in times of distress.

The present study first investigates the relations between maternal secure base script knowledge and the following child outcomes: attachment security, caregiving scripts, and caregiving behavior. Secondly, the study investigates three exploratory, mediation models, such that mothers' secure base script knowledge predicts (1) child attachment, (2) caregiving scripts and (3) behaviors, mediated by mothers' responses to child distress.

This study will contribute to the literature by: (a) replicating existing evidence predicting child attachment scripts from mother attachment scripts, (b) studying new distal child outcomes of maternal secure base script knowledge, (c) connecting maternal secure base script knowledge to mothers' response to child distress, and (d) connecting these constructs in an exploratory meditational model.

Research Questions

Will mothers' secure base script knowledge predict her child's attachment security?
Will mothers' secure base script knowledge predict her responses to child distress?
Will mothers' secure base script knowledge predict her child's caregiving scripts and behaviors?
Will mothers' response to child distress mediate this link between mothers' secure base script knowledge and child caregiving skills?

We are interested in testing a model where maternal secure base script knowledge predicts three distinct child outcomes. It may be that this model is mediated by two factors, supportive and unsupportive response to child distress.

Hypotheses [path C]

- **1a.** Mothers' secure base script knowledge will predict her child's attachment security.
- **1b.** Mothers' secure base script knowledge will predict her child's caregiving scripts.
- **1c.** Mothers' secure base script knowledge will predict her child's caregiving behaviors.

Exploratory hypotheses [mediation model; supportive and unsupportive response to child distress will be tested separately as mediators]

- **2a.** Mothers' responses to child distress will mediate the link between her secure base script knowledge and her child's attachment security.
- **2b.** Mothers' responses to child distress will mediate the link between her secure base script knowledge and her child's caregiving scripts.
- **2c.** Mothers' responses to child distress will mediate the link between her secure base script knowledge and her child's caregiving behaviors.

Sampling Plan

Existing Data

This project uses existing data from a study conducted in 2014. We have concluded data collection for the study.

Registration prior to accessing the data

We are registering our analytic plan prior to conducting any hypothesis testing and prior to any data cleaning of all variables and entry of the mother secure base script knowledge data.

Explanation of existing data

If you indicate that you will be using some data that already exist in this study, please describe the steps you have taken to assure that you are unaware of any patterns or summary statistics in the data. This may include an explanation of how access to the data has been limited, who has observed the data, or how you have avoided observing any analysis of the specific data you will use in your study. The purpose of this question is to assure that the line between confirmatory and exploratory analysis is clear.

The data were collected as a part of a larger study designed by Jude Cassidy, Jessica Stern, and David Martin. The primary researcher for this project, Martha Davis Straske, was not a student at the time of this data collection.

The following measures have been coded and analyzed for separate projects: child attachment security (ASCT), child caregiving scripts (CGST), and child caregiving behavior (clipboard task); however, Davis was not a student at the time and was not a part of the coding, analysis, or write-up. Additionally, all coders for these measures were unaware of information about the child and family.

The ASA was recently coded by research assistants who are unaware of all information about the child and family.

In summary, the principle researcher (Straske) has not seen any of the data so far. All coding (both previously done and upcoming) will be completed by researchers who are unaware of information about the child and family.

Data collection procedures

Please describe the process by which you will collect your data. If you are using human subjects, this should include the population from which you obtain subjects, recruitment efforts, payment for participation, how subjects will be selected for eligibility from the initial pool (e.g. inclusion and exclusion rules), and your study timeline. For studies that don't include human subjects, include information about how you will collect samples, duration of data gathering efforts, source or location of samples, or batch numbers you will use.

Participants were recruited from the greater Washington, D.C. metropolitan area IRB-approved flyers and listserv announcements. Inclusion criteria were as follows: (1) child is 4 years old and (2) typically developing, (3) mother is at least 18 years old, and (4) mother and child speak English. Data collection for the present study took place in one occasion (~1 hour). This was mothers' and children's second visit to the lab for a larger, ongoing study. At the conclusion of the two visits, mothers received $30 in compensation and children received a small prize.

Mothers completed a Qualtrics survey, including the Coping with Toddlers' Negative Emotions Scale (CTNES; Spinrad et al., 2004), and completed the Attachment Script Assessment (ASA; Waters & Rodrigues-Doolabh, 2001) with a research assistant. Meanwhile, the child participated in prosocial behavior tasks, including a clipboard comforting task and the doll story task. Please see the Measured Variables section below for more details on each of these procedures.

Sample size

84 mother-child (child age = 4 years old) dyads

Sample size rationale

Our sample comes from a previously conducted study, which included a full sample size of 107. From this 107, the first seven dyads were used as pilot data. From the remaining 100 dyads, four dyads were deemed ineligible (two children not typically developing, one child outside of age range, one mother not proficient in English). Of these 96 dyads, seven did not return for the second visit, when most of this study's

procedures were conducted. Finally, five dyads did not fully complete the second lab visit assessments, resulting in a final sample size of 84.

A post-hoc power analysis was conducted using G*Power 3.1, under the *exact* test family for *linear multiple regression (random model)* statistical tests, with one predictor. With our sample size of 84 and a medium effect size of .15 (H1 $f^2 = .15$), I will have .96 power to detect a significant effect. With a small effect size of .05 (H1 $f^2 = .05$), I will have .65 power to detect a significant effect. In other words, with a known sample of 84 and an ideal power of 0.80, we could find an effect size of 0.075.

Stopping rule

If your data collection procedures do not give you full control over your exact sample size, specify how you will decide when to terminate your data collection.

Because this project uses existing data, there is no data collection or stopping protocol in place. During the original data collection for this study, recruitment was stopped when the researchers reached the target N.

Variables

Manipulated variables

N/A

Measured variables

Demographics. Participants will answer questions about gender, race, and age.

Maternal response to child distress. Mothers completed a 12-item Coping with Toddlers' Negative Emotions Scale (CTNES; Spinrad et al., 2004), a questionnaire which measures caregivers' behavioral responses to child distress. Caregivers rate their likelihood of engaging in each of seven possible responses to their toddler's negative emotions on a 7-point scale, from 1 (very unlikely) to 7 (very likely). The seven possible responses are grouped into categories of: (a) distress reactions, (b) punitive reactions, (c) minimizing reactions, (d) expressive encouragement, (e) emotion-focused reactions, (f) problem-focused reactions, and (g) granting the child's wish.

Maternal secure base script knowledge. A research assistant administered the Adult Script Assessment (ASA; Waters & Rodrigues-Doolabh, 2001) to mothers. This procedure asks participants to create a story based on a list of 12- to 14-word prompts provided. The prompt words are a loose suggestion of details to be included in the story. The participant is given two minutes to review the prompt before beginning to tell a story of their own. There are a total of four stories involved in the procedure; two focus on a parent-child relationship (*Baby's Morning, Doctor's Office)*, and two focus on a romantic adult relationship (*Camping Trip, Sue's Accident*). Participantss who have strong secure base script knowledge (which has been empirically connected to AAI coherence (Coppola et al., 2006, Waters et al., 2013) and child security (Bost et al., 2006; Tini et al., 2003; Wong et al., 2011) create coherent stories centering around a small incident of distress which is eased by actions of the adult or partner.

Stories are coded on a 7-point scale indicating the extent to which the story possesses secure base script knowledge, from 7 (*extensive secure base script knowledge with substantial elaboration*) to 1 (*no secure base script content apparent; passage is primarily a list of events*). The four scores from each participant are averaged to create a composite score of secure base script knowledge. This data has not yet been coded, and coders will be unaware of all participant and family information.

Child attachment security. Children completed the Attachment Story Completion Task (ASCT; Bretherton, Ridgeway, & Cassidy, 1990). The task asks children to complete a warm-up and five additional story stems based on a protagonist doll (matched for child gender) and the doll's family. In these stories, the experimenter begins to tell a story and then asks the child, "Show me what happens next." Stories are designed to elicit children's understanding of attachment-related issues, so children were prompted with questions if they did not address the major attachment-related event of the story. Stories were considered complete once children verbally indicated they were finished, had handed their dolls back to the experimenter, or sat back and looked at the experimenter expectantly.

Stories were videotaped and independently coded by three trained coders and two expert coders, based on a manual developed within the lab as an adaptation of the original Bretherton et al. (1990) method, taking into account considerations from Cassidy (1988) and Main et al. (1985). Children's responses were coded for content and process on a 5-point scale, from 1 (*highly insecure*) to 5 (*highly secure*). Then, children were assigned a classification of organized (combining secure and avoidant classifications) or a classification of disorganized.

Child caregiving cognitions. Children completed the Caregiving Story Completion Task (CGST), an assessment developed by David Martin, Jessica Stern, and Jude Cassidy. The task asks children to complete four story stems (two fear-valenced, one sadness-valenced, one physical pain) based on a protagonist doll (matched for child gender). In these stories, a friend doll of the the protagonist doll is distressed about something; the experimenter then asks the child, "Show and tell me what happens next." Stories were considered complete once children verbally indicated they were finished, had handed their dolls back to the experimenter, or sat back and looked at the experimenter expectantly.

These stories were videotaped and independently coded by three trained coders and one expert coder, based on a manual developed by Martin, Stern, and Cassidy. Children's responses were coded for the presence of care provision and communicating of whether the care was effective in solving the problem, based on a 4-point scale, from 1 (*no caregiving script*) to 4 (*clear caregiving script knowledge*).

Child caregiving behavior. Children also completed the Clipboard Task, a measurement of prosocial comforting behavior. While children were engaging in free play, the adult experimenter picked up papers to place them on a clipboard. While

doing so, the experimenter simulated being pinched by the clipboard by loudly snapping the clipboard and exclaiming "Ouch! I pinched my finger on my clipboard!" Following this exclamation, the two-minute task was divided into four 30-second segments. The first segment involved the experimenter showing distress by moaning and sighing without looking at the child. During the second segment, the experimenter verbally expressed sadness by stating the problem three times, without looking at the child. In the third segment, the experimenter repeated the problem while looking at the child. In the fourth segment, the experimenter made a direct request for help from the child. At the end of the two minutes, the experimenter demonstrated feeling better, and play resumed.

This behavioral task was videotaped and coded by five trained, reliable coders in 10-second segments. Each segment was coded for the presence of comforting behaviors, negativity, distress, concerned attention, and proximity. These behaviors were used to create a global score ranging from 1 (low comforting) to 5 (high comforting).

Indices

If any measurements are going to be combined into an index (or even a mean), what measures will you use and how will they be combined? Include either a formula or a precise description of your method. If you are using a more complicated statistical method to combine measures (e.g. a factor analysis), you can note that here but describe the exact method in the analysis plan section.

Secure base script knowledge. The four scores (one per story) from each participant are averaged to create a mean score of secure base script knowledge (range = 1 to 7).

Unsupportive responses. The domains of (a) distress, (b) punitive, and (c) minimizing reactions are averaged to create a composite score of *unsupportive responses*. This subscale grouping follows Gudmundson and Leerkes's (2012) adaptation of the original scale.

Supportive responses. From the CTNES data on maternal response to child distress, the domains of (d) expressive encouragement, (e) emotion-focused reactions, and (f) problem-focused reactions are averaged to create a composite score of *supportive responses*. This subscale grouping follows Gudmundson and Leerkes's (2012) adaptation of the original scale.

Design Plan

Study type

Correlational study

Blinding

All coders for ASA, ASCT, CGST, and caregiving behaviors were unaware of additional information about the child and family.

Study design
Correlational design

Randomization
All participants go through identical study procedure.

Analysis Plan

Statistical models
We will examine gender and maternal education as a priori covariates. Maternal education will be transformed into a categorical variable, such that 0 = has not completed college or lower and 1 = completed college or greater.

We plan to run a correlation matrix to determine if any other child (race) or mother demographic variables (education, income, or race) are significant correlated with both the predictor (mothers' secure base scripts) and outcome variables (child attachment, caregiving scripts, and caregiving behaviors). If so, I will also include those variables as covariates in all principal analyses.

We plan to conduct linear regressions and bootstrapped mediation modeling using R or PROCESS (Hayes, 2016) in SPSS, which will allow us to test both indirect and direct effects of the meditational model for each child outcome in one simple analysis per outcome, while also controlling for empirically derived covariates.

Hypotheses Model 1 [child attachment security]

- Mothers' ASA score will be entered as the independent variable and child ASCT security score will be entered as the dependent variable.

Hypotheses Model 2 [child caregiving scripts]

- Mothers' ASA score will be entered as the independent variable and child CGST score will be entered as the dependent variable.

Hypotheses Model 3 [child caregiving behavior]

- Mothers' ASA score will be entered as the independent variable and child clipboard task score will be entered as the dependent variable.

Exploratory Model 1 [child attachment security]

- Mothers' ASA score will be entered as the independent variable, supportive and unsupportive response to distress from CTNES will be entered as the two mediators, and child ASCT security score will be entered as the dependent variable.

Exploratory Model 2 [child caregiving scripts]

- Mothers' ASA score will be entered as the independent variable, supportive and unsupportive response to distress from CTNES will be entered as the two mediators, and child CGST score will be entered as the dependent variable.

Exploratory Model 3 [child caregiving behavior]

- Mothers' ASA score will be entered as the independent variable, supportive and unsupportive response to distress from CTNES will be entered as the two mediators, and child clipboard task score will be entered as the dependent variable.

Inference Criteria

We will be using one-tailed tests for our main hypotheses and two-tailed tests for our exploratory analyses at standard criteria of $p < .05$.

Data Exclusion

For the ASA data, participants who do not follow directions for the secure base script task and receive a score of 0 (e.g., they tell a story about a non-attachment relationship (like siblings or peers), or an autobiographical story) will not be included in analysis (following personal communication with H. Waters, June 2019).

Missing data

We will only analyze complete cases, and report frequencies of missing data. We will report how many individual ASA stories are un-scorable; however, participants' mean score can still be calculated from 3 out of 4 stories (if one of their 4 stories is coded as 0).

Other

N/A

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Tables

Table 1

Attachment Security Completion Task Inter-rater Reliability

Variable	**Alpha**
Knee Security	0.86
Monster Security	0.85
Reunion Security	0.88

Table 2

Caregiving Story Completion Task Inter-rater Reliability

Variable	**Alpha**
Big Dog Caregiving Script	0.86
Swimming Pool Caregiving Script	0.75
Sleepover Caregiving Script	0.82
Lost Toy Caregiving Script	0.93

Table 3

Descriptive Statistics for Key Variables

	M(SD)	Possible Ranges	Actual Ranges
Mother variables			
Secure base script knowledge	3.63(1.02)	1.00 – 7.00	1.88 – 6.38
Supportive response to child distress	5.63(0.72)	1.00 – 7.00	3.97 – 6.94
Unsupportive response to child distress	2.95(0.77)	1.00 – 7.00	1.42 – 4.86
Child variables			
Attachment security	3.06(1.22)	1.00 – 5.00	1.00 – 5.00
Caregiving scripts	2.30(0.57)	1.00 – 4.00	1.00 – 3.75
Caregiving behavior	2.61(1.50)	1.00 – 5.00	1.00 – 5.00

Note. All numbers represent mean scores across scale items.

Table 4

Bivariate Correlations among Key Variables

		Mother variables			Child variables		
		1	2	3	4	5	6
Mother variables							
3.	Secure base script knowledge	___					
4.	Supportive response to child distress	0.23*	___				
5.	Unsupportive response to child distress	-0.24*	-0.29**	___			
Child variables							
6.	Attachment security	0.00	-0.18	0.03	___		
7.	Caregiving scripts	0.16	-0.08	0.08	0.31**	___	
8.	Caregiving behavior	-0.17	-0.08	0.10	0.35***		___

Note. $p < .05$*, $p < .01$**, $p < .001$***

Table 5

Bivariate Correlations between Demographic and Key Variables

	Key Study Variables					
	ASA	Supportive response to distress	Unsupportive response to distress	Attachment Security	Caregiving scripts	Caregiving behavior
Mother demographics						
Race	-0.36**	-0.23*	0.13	0.07	-0.10	0.32**
Income	0.39**	0.20	-0.24*	0.02	0.15	0.04
Education	0.25*	0.20	-0.09	-0.06	0.09	0.12
Child demographics						
Age (in months)	0.18	-0.01	0.02	0.05	0.04	-0.09
Race	-0.38**	-0.18	0.18	0.01	-0.19	0.23*
Gender	0.06	-0.09	-0.11	0.35**	0.15	-0.09

Note. Biserial correlations were performed for mother and child race, mother education, and child gender. $p < .05$*, $p < .01$**, $p < .001$***

Table 6

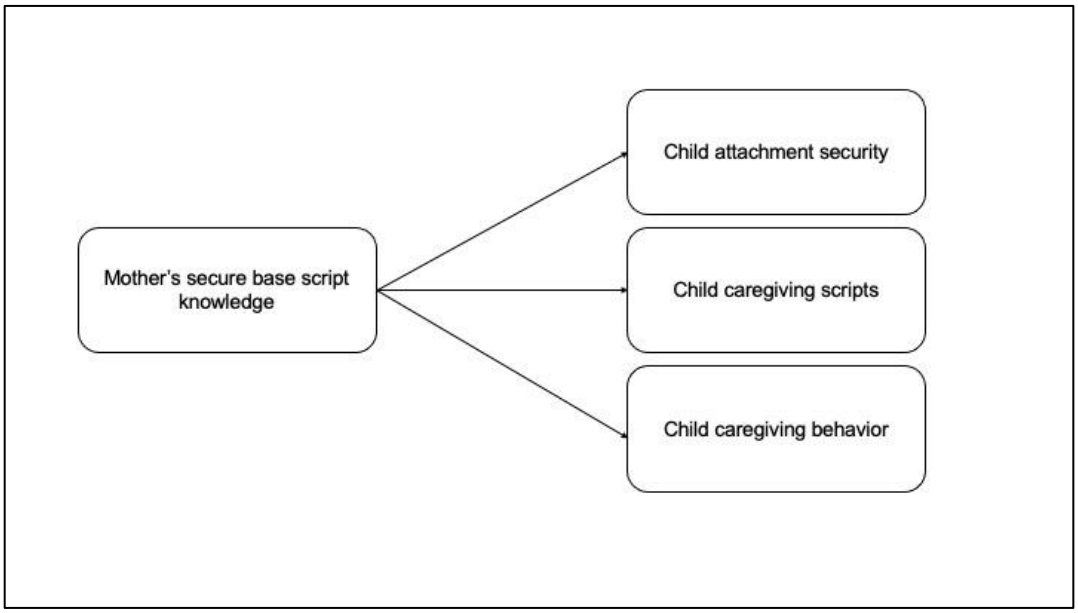
Regression Analyses Predicting Child Outcomes from Mother's Secure Base Scripts

	ß	***p***
Child attachment security		
Mother secure base script	-0.01	0.95
Child gender	0.32	0.04
Maternal education	-0.03	0.8
	ß	***p***
Child caregiving scripts		
Mother secure base script	0.13	0.25
Child gender	0.15	0.18
Maternal education	0.07	0.56
	ß	***p***
Child caregiving behavior		
Mother secure base script	-0.13	0.27
Child gender	-0.04	0.73
Child race	0.27	0.03
Maternal education	0.25	0.04

Figures

Figure 1

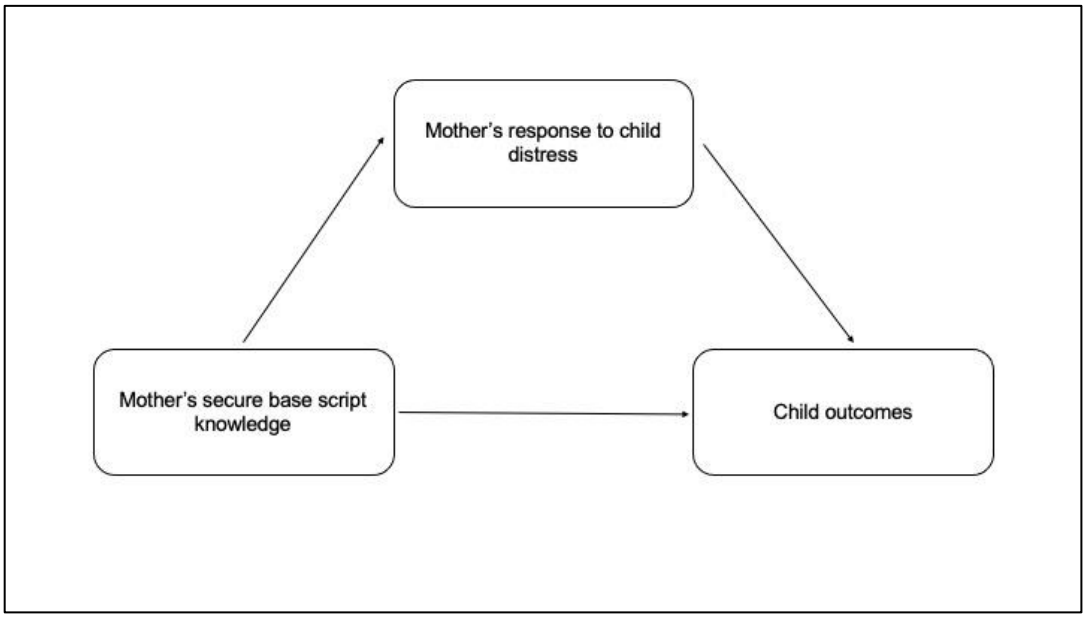
Present Study: Predictive Model



Note. This figure represents the central, grounding model of this proposal, such that mothers' secure base script knowledge predicts child attachment security and child prosociality of caregiving scripts and behaviors.

Figure 2

Present Study: Exploratory Mediational Model



Note. Mediational model predicting child attachment security, child caregiving scripts, and child caregiving behaviors from mothers' secure base script knowledge, through mothers' response to child distress.

Figure 3

Data Analysis Plan: Hypothesized Model 1

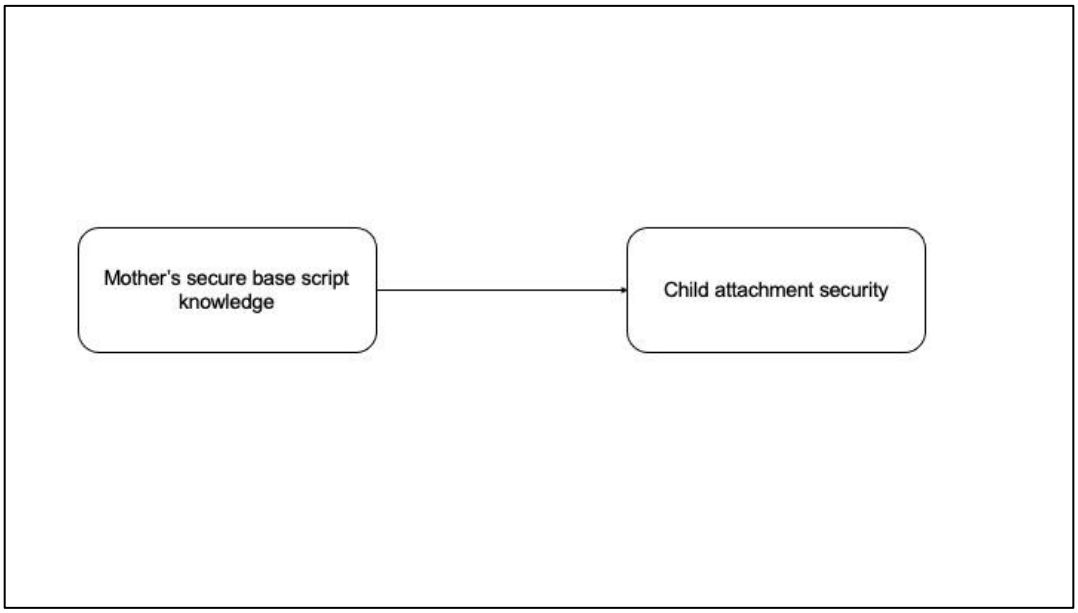


Figure 4

Data Analysis Plan: Hypothesized Model 2

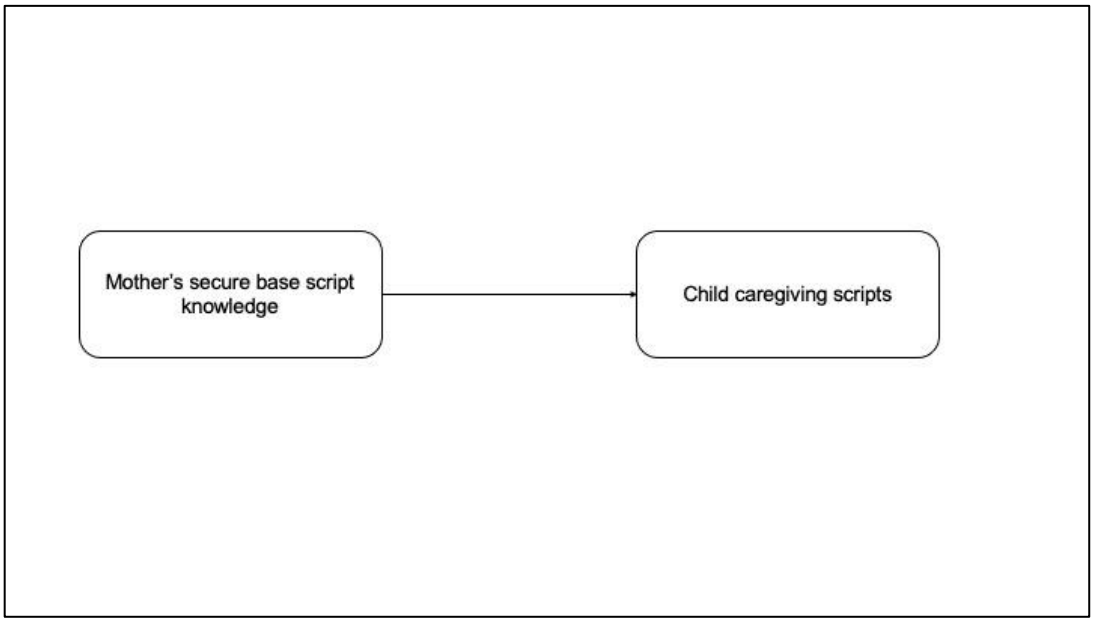


Figure 5

Data Analysis Plan: Hypothesized Model 3

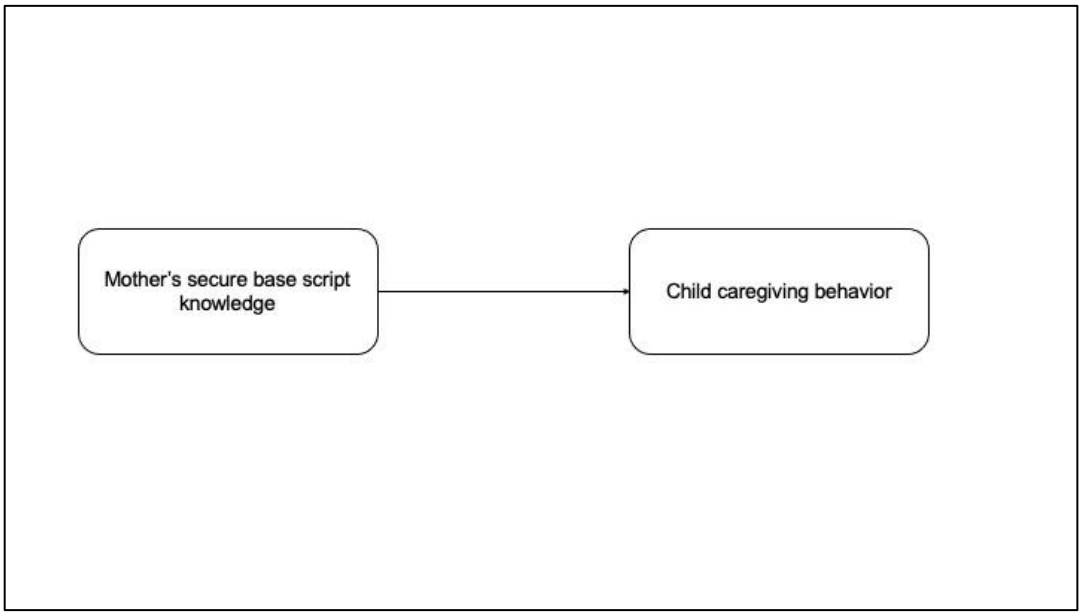


Figure 6

Data Analysis Plan: Exploratory Model 1

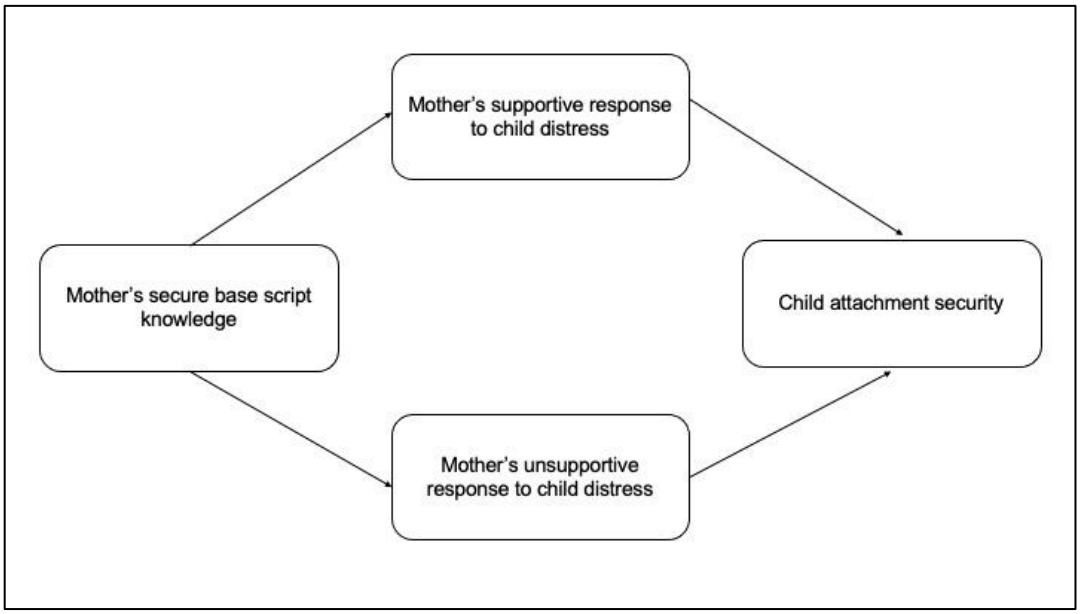


Figure 7

Data Analysis Plan: Exploratory Model 2

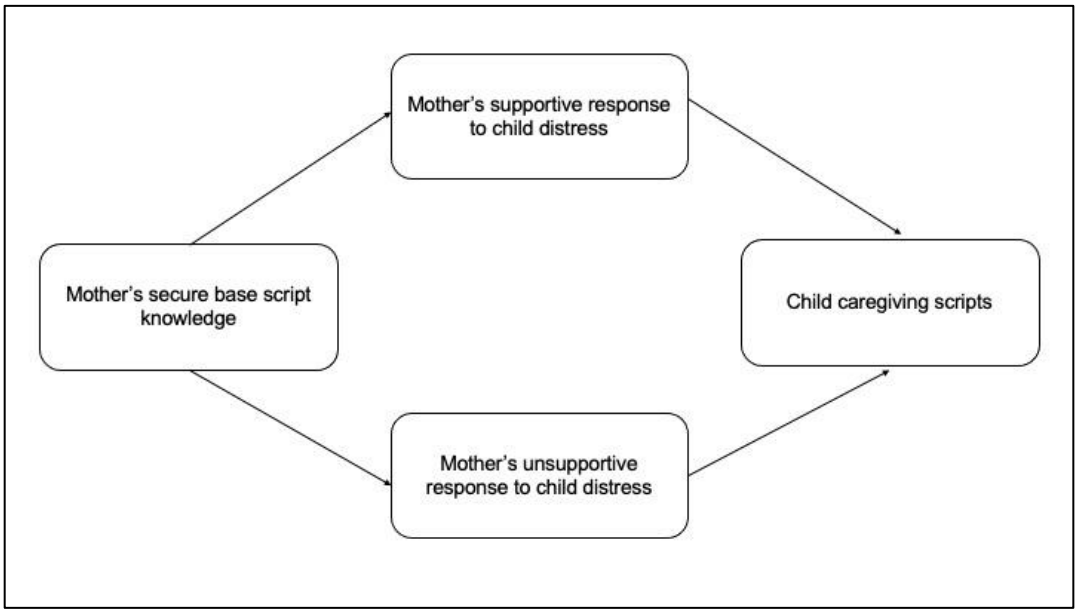


Figure 8

Data Analysis Plan: Exploratory Model 3

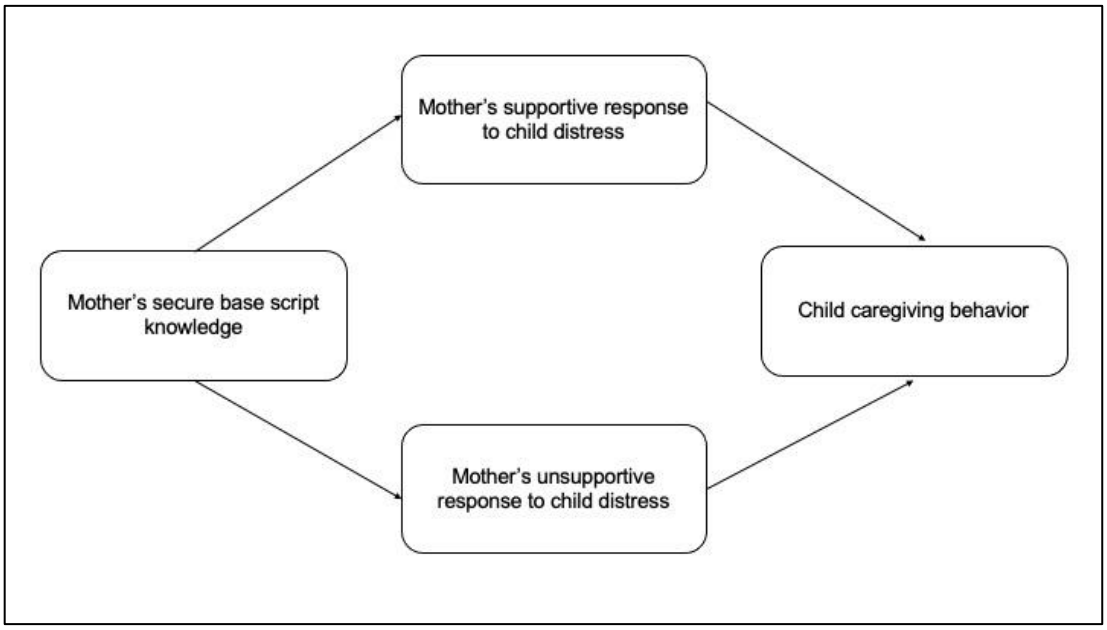


Figure 9

Mothers' Secure Base Script Scores as a Predictor of Unsupportive Behaviors

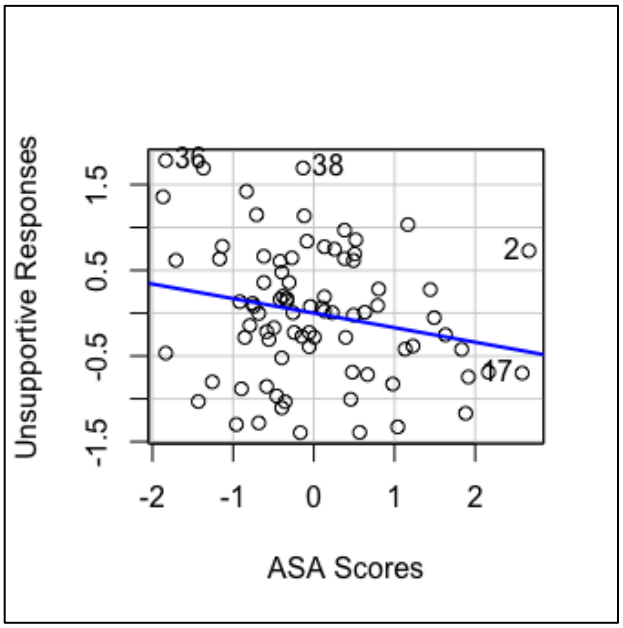


Figure 10

Mothers' Secure Base Script Scores as a Predictor of Supportive Behaviors

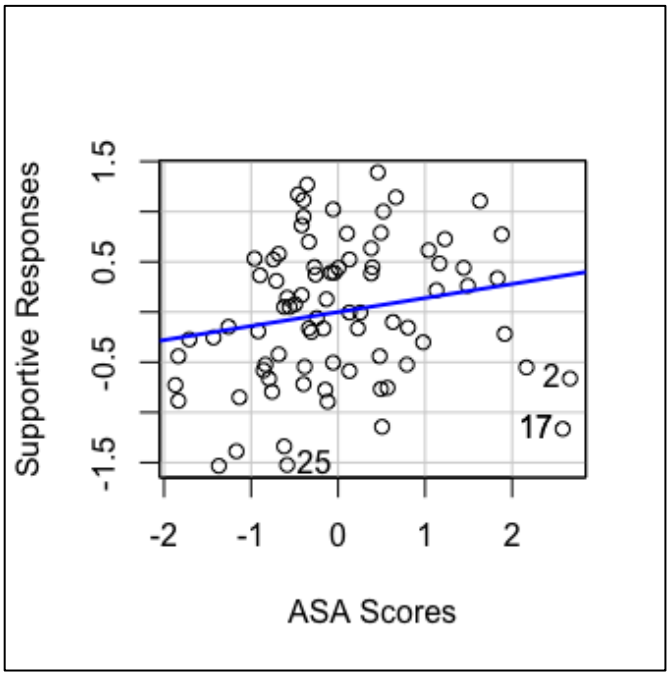


Figure 11

Significant Path A Findings

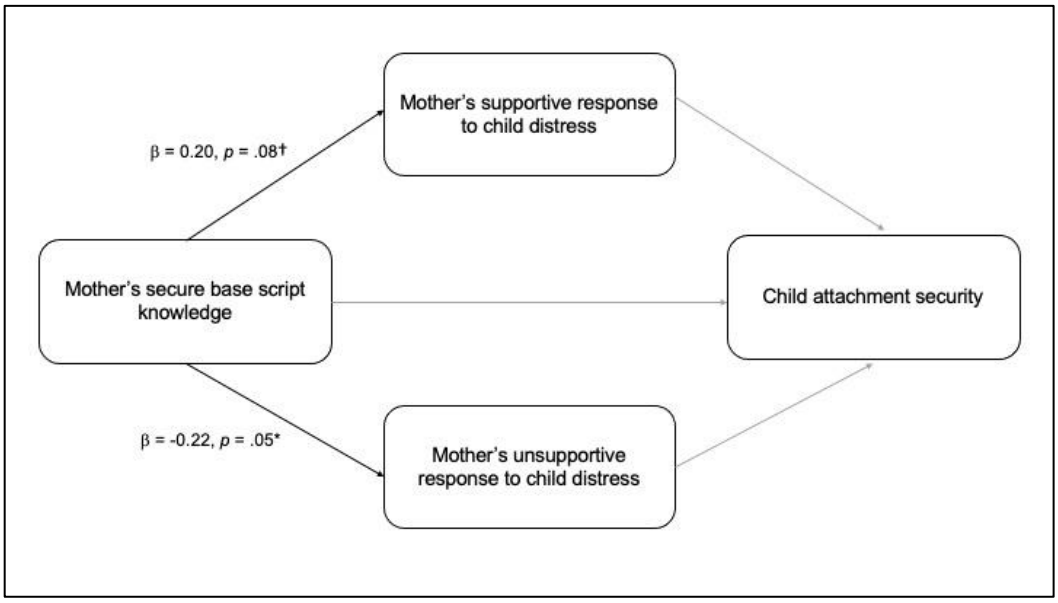
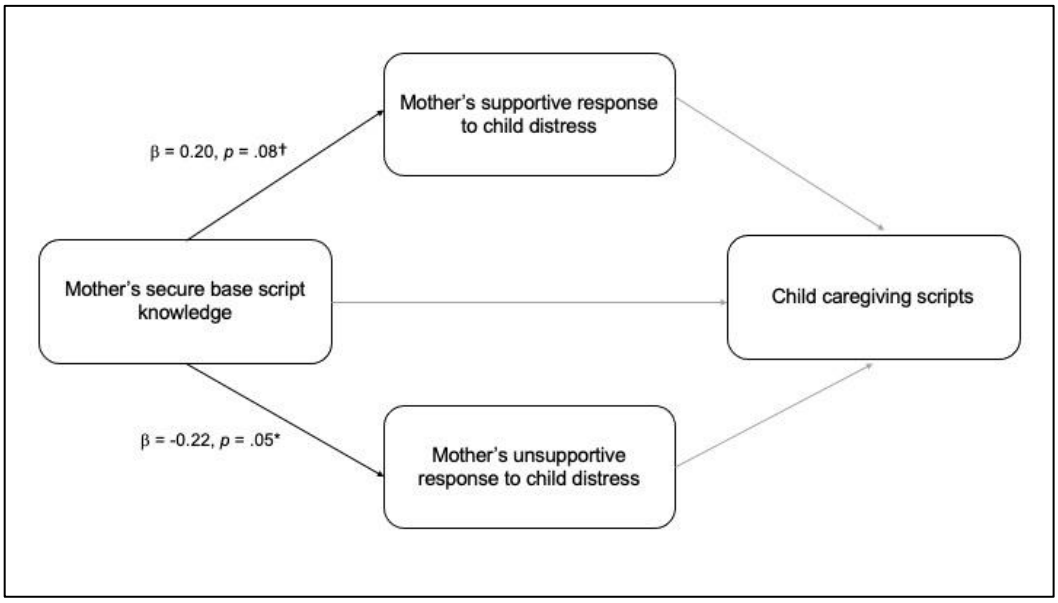


Figure 12

Significant Path A Findings



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